

The Encyclopedia of Comparative Education and National Systems of Education

Edited by

T Neville Postlethwaite

Advances in Education

Pergamon Press

The Encyclopedia of Comparative Education and National Systems of Education

Introduction from the Editor
Deville Postlethwaite,
University of Hamburg, FRG

THE ENCYCLOPEDIA OF COMPARATIVE EDUCATION AND NATIONAL SYSTEMS OF EDUCATION

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T. NEVILLE POSTLETHWAITE

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Contents

Preface

xvii

Part I Comparative Education

(a) History, Concepts and Methods

History of Comparative Education	3
W. W. BRICKMAN†	
Concepts and Theories in Comparative Education	7
M. A. ECKSTEIN	
Methods in Comparative Education	10
H. J. NOAH	
Alternative Approaches in Comparative Education	13
G. P. KELLY and P. G. ALTBACH	

(b) General Comparative Education

Comparative Statistics in Education	21
J. PORRAS-ZÚÑIGA	
Comparative Studies of Educational Policy	29
F. S. COOMBS	
Comparative Studies in the Economics of Education	31
L. GÓMEZ CASTELLANOS	
Area Studies in Comparative Education	40
P. FOSTER	
Documentation in Comparative Education	41
M. DEBEAUVAIS	

†deceased

(c) Major Aspects of Education Viewed Comparatively

Comparative Studies in Preschool Education M. WOODHEAD and D. P. WEIKART	49
Comparative Studies in Primary and Secondary Education R. M. THOMAS	52
Comparative Studies in Technical and Vocational Education R. H. LEHMANN	55
Comparative Studies in Teaching and Teacher Education M. J. DUNKIN	60
Comparative Studies in Higher Education P. G. ALTBACH	66
Comparative Studies in Adult and Lifelong Education C. J. TITMUS	68
Comparative Studies in Nonformal Education P. H. COOMBS	72

Part II National Systems of Education

Afghanistan D. D-F. LIN	79
Albania S. TEMO	81
Algeria M-D. CHABOU	84
American Samoa R. M. THOMAS	89
Angola A. GORHAM and R. DUBERG	92
Antigua M. MCLEAN	97
Argentina M. A. PETTY	101

Australia P. MCKENZIE	106
Austria W. CLEMENT	114
Bahamas M. MCLEAN	122
Bahrain S. ISSAN and D. J. DANIELS	125
Bangladesh E. SATTAR	128
Barbados A. LAYNE and L. G. ATHERLEY	131
Belgium P. VANBERGEN	135
Belize S. MUSA	142
Benin S. S. MCINTYRE	145
Bhutan N. RINCHHEN	147
Bolivia I. CLASSEN-BAUER	149
Botswana L. A. LOCKHART	153
Brazil E. BAUZER MEDEIROS	156
Brunei Darussalam C. T. STEGE	161
Bulgaria A. FOL	163
Burkina Faso J. T. BRADY	166
Burma D. D-F. LIN	168

Burundi L. NTAWURISHIRA	170
Cameroon O. W. YEMBE	175
Canada R. E. BLAIR	179
Central African Republic S. S. MCINTYRE	186
Chad B-R. MIARO-II	188
Chile C. RODRÍGUEZ	192
China, People's Republic of DONG CHUN-CAI	197
Colombia J. MORA	202
Congo V. SENG-NSIKAZOLO and A. MAKONDA	205
Costa Rica M. J. BALDARES	210
Cuba J. WERTHEIN	212
Cyprus E. I. DEMETRIADES	217
Czechoslovakia S. PETRÁČEK	223
Denmark J. FLORANDER	229
Djibouti C. M. MICHEL	234
Dominican Republic J. M. FERNANDEZ	236

Ecuador F. X. SWETT and S. CARRASCO TORAL	239
Egypt A. A. H. EL-KOUSSY	242
El Salvador R. RUIZ-ESPARZA	248
Ethiopia T. G. WAGAW	252
Fiji T. N. POSTLETHWAITE and R. M. THOMAS	257
Finland K. LEIMU	260
France J-C. EICHER	267
French Guiana P-A. N. EMOUNGU	277
French Pacific Islands T. N. POSTLETHWAITE and R. M. THOMAS	280
Gabon A. IVANGA and I. M. MAIMBOLWA-SINYANGWE	282
Gambia P. SONKO-GODWIN	284
German Democratic Republic W. KIENITZ	287
Germany, Federal Republic of J. NAUMANN and H. KOHLER	294
Ghana C. M. MICHEL	300
Greece G. PSACHAROPOULOS	304
Guadeloupe and Martinique C. M. MICHEL	310
Guatemala C. GONZÁLEZ ORELLANA	312

Guinea C. M. MICHEL and I. M. MAIMBOLWA-SINYANGWE	316
Guinea-Bissau P. SONKO-GODWIN	319
Guyana N. K. SAMAROO	321
Haiti G. DORCELY	326
Honduras D. VEGA	329
Hong Kong M. A. BRIMER	332
Hungary Z. BÁTHORY	338
Iceland H. LÁRUSSON	345
India A. BORDIA	350
Indonesia R. M. THOMAS	358
Iran S. M. REDJALI	364
Iraq N. Y. ALNAWWAB	369
Ireland, Republic of T. KELLAGHAN	372
Israel A. F. KLEINBERGER	378
Italy A. VISALBERGHI	385
Ivory Coast P. T. SEYA	392

Jamaica A. S. PHILLIPS†	398
Japan T. KANAYA	403
Jordan T. BERMANET and A. ZASH	409
Kampuchea T. N. POSTLETHWAITE	412
Kenya G. S. ESHIWANI	413
Korea, Democratic People's Republic of HONG SAH MYUNG	420
Korea, Republic of HYUNG JIN YOO	425
Kuwait A. BUSTAN	429
Laos K. PHONEKEO	432
Lebanon M. KRAIDY	435
Lesotho I. M. MAIMBOLWA-SINYANGWE and K. LEIMU	439
Liberia R. DUBERG	443
Libya A. LALEH	449
Luxembourg R. DIESCHBOURG	451
Macao R. M. THOMAS	454
Madagascar S. S. MCINTYRE	456

Malawi J. C. MALEWEZI	458
Malaysia A. A. AZIZ and H. AHMAD	463
Maldives M. W. HASSAN	467
Mali S. DIAKITÉ	470
Malta C. J. FARRUGIA	473
Mauritania P. SONKO-GODWIN	476
Mauritius S. MUNBODH	478
Mexico J. A. PESCADOR	482
Mongolia D. CHAPMAN	485
Morocco A. LAHJOMRI	488
Mozambique C. T. STEGE	493
Nepal P. K. KASAJU, B. D. PANDE and W. M. MATHESON	495
Netherlands W. J. NIJHOF and J. N. STREUMER	498
New Zealand W. L. RENWICK	506
Nicaragua J. B. ARRIEN	512
Niger S. S. MCINTYRE	517
Nigeria B. A. OGUNDIMU	520

Norway	527
A. O. TELHAUG	
Oman	531
S. J. MOHAMMED	
Pakistan	534
A. GHAFOR	
Panama	538
D. B. JENSEN and C. J. KRUGMEIER	
Papua New Guinea	541
V. D. MCNAMARA	
Paraguay	548
G. CORVALÁN	
Peru	551
C. J. KRUGMEIER	
Philippines	554
M. C. SUTARIA	
Poland	559
F. JANUSZKIEWICZ	
Portugal	564
M. O. VALENTE	
Qatar	568
A. A. A. TORKI	
Romania	572
G. VĂIDEANU	
Rwanda	576
P. BRADY	
Saudi Arabia	579
H. M. AL-BAADI	
Senegal	585
P. SONKO-GODWIN	
Seychelles	587
D. D'OFFAY	
Sierra Leone	592
S. S. MCINTYRE	

Singapore R. M. THOMAS	594
Somalia I. M. MAIMBOLWA-SINYANGWE	597
South Africa E. J. KING	600
Soviet Union M. P. KASHIN	605
Spain I. ALONSO HINOJAL	610
Sri Lanka D. A. PERERA	615
Sudan G. BADRI	619
Suriname W. W. DWARKASING	623
Swaziland I. M. MAIMBOLWA-SINYANGWE	627
Sweden S. MARKLUND	630
Switzerland A. GRETHER	637
Syria M. AZZAM	647
Tanzania C. M. MICHEL and I. M. MAIMBOLWA-SINYANGWE	652
Thailand S. CHANTAVANICH and G. W. FRY	657
Togo P. SONKO-GODWIN	662
Tonga R. M. THOMAS and T. N. POSTLETHWAITE	664
Trinidad and Tobago J. REAY	666

Tunisia C. TIBI	670
Turkey B. ONEY	676
Tuvalu and Kiribati S. HAIGH	678
Uganda C. F. ODAET	681
United Arab Emirates F. M. MINA	688
United Kingdom C. BOOTH	691
United States M. A. ECKSTEIN	698
United States Trust Territory of the Pacific Islands R. M. THOMAS	705
Uruguay A. LALEH	707
Vanuatu R. BEEVERS	709
Venezuela M. CASAS ARMENGOL	711
Vietnam LÊ THÀNH KHÔI	717
Western Samoa R. M. THOMAS	719
Yemen Arab Republic V. G. DESA	723
Yemen, People's Democratic Republic of S. A. K. AL-NOBAN	726
Yugoslavia A. KORNHAUSER	729

Zaire	
B. ABEMBA	735
Zambia	
I. M. MAIMBOLWA-SINYANGWE	739
Zimbabwe	
N. D. ATKINSON	742
<i>Appendix</i>	747
<i>Contributors Index</i>	751
<i>Name Index</i>	757
<i>Subject Index</i>	765

Preface

This *Encyclopedia* is in two parts. The first part presents a series of articles about comparative education. The second part presents descriptions of 159 different systems of education.

The purpose of this preface is to offer a background against which the contents of the two sections of the *Encyclopedia* can be viewed. It begins by presenting a definition of comparative education, then continues with a brief sketch of historical stages in comparative education, an outline of the major aims that comparative education seeks to achieve, a scheme for categorizing the content of the field, a listing of articles composing Part 1 of the *Encyclopedia*, and an explanation of the organizational plan for each of the 159 articles about systems of education that comprise Part 2.

1. Defining Comparative Education

Strictly speaking, to “compare” means to examine two or more entities by putting them side by side and looking for similarities and differences between or among them. In the field of education, this can apply both to comparisons between and comparisons within systems of education. In addition, however, there are many studies that are not comparative in the strict sense of the word which have traditionally been classified under the heading of comparative education. Such studies do not compare, but rather describe, analyse or make proposals for a particular aspect of education in *one* country other than the author’s own country. The Comparative and International Education Society introduced the word “international” in their title in order to cover these sorts of studies.

The term “education” normally embraces all forms of planned formal education from preschool through university as well as planned nonformal and adult education, and this is the definition that has been used for the purpose of this *Encyclopedia*.

2. A Brief Sketch of Historical Stages in Comparative Education

Noah and Eckstein (1969) have traced the development of comparative education since the time of Xenophon. They detected five phases of comparative education.

The first phase they labelled “Traveller’s tales”, a term that refers to the “oral reports” as exemplified by Greeks and Romans, and later by Marco Polo, and Alexis de Tocqueville, showing how they commented on the education of young persons who they observed as they journeyed in foreign parts.

The second phase emerged about the beginning of the 1800s. This involved the systematic collection of data about education in different countries. Marc Antoine Jullien was one of the first persons to think of collecting data systematically. Indeed, he constructed a lengthy questionnaire although it was, in the end, never used. Victor Cousin from France, John Criscom from the United States, Matthew Arnold from England, and Leo Tolstoy from Russia all visited other countries and observed how education was organized and conducted, and they identified the main tenets of the

philosophy of education in the systems they observed. It was during this phase that certain problems were identified which included problems in comparing terminology and in gathering valid and reliable data, and the feasibility of borrowing ideas from one country and implanting them in another. Tolstoy, in particular, had some harsh words to say about the notion of "borrowing" which he rejected totally (Tolstoy 1861).

In connection with the British Government's Bryce Commission on Education in 1894 and 1895, Sir Michael Sadler of England visited Germany and wrote notes on his observations in schools. His article "How far can we learn anything of practical value from the study of foreign systems of education?" (1900) makes interesting reading. Sadler did not believe that particular elements or methods in a foreign system of education were "detachable details". However, he did see the sympathetic and scholarly study of the working of foreign systems as resulting in the researcher being better fitted to study and understand their own system.

The third phase, namely international cooperation, overlapped with the second (borrowing). Both Jullien and Sadler can be regarded as the initiators. International cooperation is still strong in the 1980s as witnessed by the work of the International Bureau of Education with its publication of the *International Yearbook of Education*, by the work of UNESCO with its publication of internationally based educational statistics and its reports on various aspects of education, and by the work of the Organisation for Economic Cooperation and Development (OECD), with its country reviews and so on.

The fourth phase, of which Sadler can also be regarded as the initiator, consisted of an effort to identify forces influencing the development of systems of education or of specific components of an educational system. Emphasis was placed in particular on a more analytic understanding of the relationship between society and education. Other persons before Sadler (such as Arnold in England, Dilthey in Germany, Harris in the United States, and Levasseur in France) had intimated the notions of this more analytic approach, but it was Sadler's writings that first revealed new prospects of studies in comparative education, both in terms of their comprehensiveness (taking into account a greater number of forces influencing educational development), and in terms of their great analytical and explanatory powers.

From 1900 to 1960 various authors—now famous names in comparative education—conducted studies attempting, usually through speculation, to identify the social and political causes responsible for educational practices. Kandel (1933) traced the connections between the schools of Europe and the political systems in which they were embedded. Schneider (1947) and Hans (1949) attempted to identify the broad cross-national historical and social forces that determine the various shapes of national systems of education in relation to the development of European civilization. They all attempted to relate the variations in forces in societies to differences in their schools. This kind of work—characterized by a broad historical, social, and political study of changes in, and differences between, systems of education—still represents a major effort in the mid-1980s.

The fifth phase began to emerge in the post-Second World War era and burgeoned in the 1960s and 1970s. This phase saw the use of social-science methods and quantitative and qualitative data to examine the effect of various factors on educational development. The studies carried out using these methods took the form of estimating coefficients indicating the strength of effect of one variable or construct on other constructs relative to the strength of other variables. In all social science research there are the problems of measurement error, of sampling error, and of selecting the appropriate form of statistical analysis for disentangling the relative effects of factors postulated as influencing

a particular outcome or practice in education. There are those who reject an empirical approach to education because "it is attempting to quantify the unquantifiable". But the obvious danger in *not* using an empirical approach is that one is left in the realm of speculation about the relative effect of variables which are intercorrelated. Social scientists would argue that although their approach has its imperfections, it is more likely that progress can be made with the use of model (theory) testing than without it.

Today there are still two major approaches in comparative education—the one using the empirical paradigm and the other using historical and hermeneutic approaches. However, the picture has become more complicated in that within the social sciences there has been an upsurge of studies using qualitative data accompanied by a "pseudo" debate on the relative merits of quantitative versus qualitative studies. The word "pseudo" has been used because it is not really a matter of one approach versus another since most studies require a mixture of both. Indeed, from the plethora of approaches available, the comparative educator must always select the most appropriate approach or combination of several approaches in order to answer the particular questions under investigation.

3. *Major Aims of Comparative Studies*

When well done, comparative education can deepen our understanding of our own education and society, it can be of assistance to policy makers and administrators, and it can be a valuable component of teacher education programmes. As Noah (1983 p. 4) put it, "comparative education can help us understand better our own past; locate ourselves more exactly in the present; and discern a little more clearly what our educational future may be". These contributions can be made through work that is primarily descriptive as well as through work that seeks to be analytic or explanatory, through work that is limited to just one or a few nations, and through work that relies on nonquantitative as well as quantitative data and methods.

There would appear to be four major aims of comparative education.

(a) *Identifying what is happening elsewhere that might help improve our own system of education.* One example of this would be identifying the principles involved in an innovation such as "mastery learning" which has such success in the Republic of Korea, and grasping the procedures necessary to implement the mastery principle.

Another example might be finding out how various nations try to ensure certain minimum standards of knowledge, skills, and attitudes in mass education; what principles are involved in what they do; in what way the procedures they use for each principle may have to be modified to fit another system; and, ultimately, whether it is worth trying to experiment with this innovation in other systems.

Or, to take another problem which is being discussed in the Federal Republic of Germany, how can high quality research and excellence of scholarly work be achieved when one has moved from an elite university system to a mass university system? Many countries have experienced this shift in tertiary education. How have they dealt with the problem of ensuring high quality research work? What solutions have been attempted in other countries? What can the Federal Republic learn from them in developing its own solutions?

(b) *Describing similarities and differences in educational phenomena between systems of education and interpreting why these exist.* There are of course, similarities and differences between systems of education—in goals, in structures, in financing mechanisms, in the scholastic achievement of age groups, and so on—which if correctly

analysed could reveal important information about the systems being compared. Indeed, it can also be useful to analyse differences and similarities between subparts of a system. For instance, Prais (1983, 1985) examined differences in mathematics achievement between the bottom half of the distribution of students in England and the Federal Republic of Germany. This comparison was undertaken because it was believed by the English that *Real-* and *Hauptschule* education was better in Germany than its equivalent in England, and the researcher wanted to find out if this was true or not. Basically the comparison showed that the bottom half of the German distribution was higher than the English. However, when the top half of the distribution was compared in Science (Comber and Keeves 1973), the English students did better than the German ones. Thus, in this case, the investigators found it useful to compare not only general averages, but also the averages of subsections of the distribution of students. Having established these facts, a second question was then asked about the concomitants of such achievement in Germany, if indeed the German system was better.

Another book, (Steiner 1981), presented changes in mathematics curricula between 1960 and 1980 in a series of countries and looked for similarities and differences in not only the curricula profiles but also in the reasons given for the differences. This book opened the possibility for any of the countries dealt with in the study to compare their mathematics curriculum with that of any of the other countries. Thus England, for instance, could perhaps learn from such a comparison in view of its apparent lower achievement at the bottom half of its distribution.

Studies of these types may describe not only inputs to and processes within systems but also the philosophy of systems (for example such catch words as equality, democratization, Arabization, and the like) and outcomes (achievement in many subjects). The questions of why certain countries have particular philosophies and what implications these have in terms of educational outcomes, are questions of both major academic and practical interest.

(c) *Estimating the relative effects of variables (thought to be determinants) on outcomes (both within and between systems of education)*. Within education there is a great deal of speculation about what affects what. How much evidence, for example, do the people who teach methods at teacher-training establishments have about the effectiveness of the methods they promulgate? What about home versus school effects on outcomes? Under what conditions and for what sorts of outcomes are they different? If we can agree on a definition of, say, equality of education (do we mean, for example, access to education, promotion through the system, treatment, achievement, or all of them?) what are the major societal, political, economic, and educational determinants of achieving such equality? For instance, when 10 eminent professors of education once were asked what, to their mind, was the most important school factor determining between-school differences in a country, among them they provided eight different answers.

It is only through systematic, analytic study that one can finally assert that factors *A* and *B* have a major impact, factors *C* and *D* a moderate impact, and factors *E*, *F* and *G* have no impact. During the 1960s there were many proponents of language laboratories for improving the acquisition of a foreign language. And yet, in a study conducted in 1971 on the learning of French as a foreign language in eight countries, the carefully amassed and analysed data showed that there was no difference in achievement in French between those students exposed to language laboratories and those who had not been exposed. Thus, it was a myth that language laboratories as used in 1971 had an effect on the learning of any of the language skills studied.

(d) *Identifying general principles concerning educational effects*. Let us take the hypo-

Table 1
Possible patterns of relationships. A hypothetical set of significant relationships with an outcome

Variables	Systems of education						
	A	B	C	D	E	F	G
1	—	—	—	—	—	—	—
2	—	—	—	—	—	—	—
3	—	—	—	—	—	—	—

thetical example in Table 1 and assume that a model has been postulated whereby certain variables are held constant before we examine the relationship between other variables (in this case 1, 2, and 3) and the outcomes. The resultant relationship will often be estimated by a regression coefficient. In Table 1, A to G represent different systems of education—the universe of study in a particular project. Variable 1 is significant in all systems, variable 2 in no system, and variable 3 is sometimes significant and sometimes not. In the first case it is a determining factor in all systems, in the second it never is, and in the third it is in some systems and not in others. Thus, for the systems A to G we seem to have general (universal is too grand a term) principles for variable 1 and 2 but not for 3. A question of interest to comparative education is, of course, why variable 3 is sometimes important and other times not.

From the foregoing examples we can see that comparative studies can have various aims. The four illustrative aims discussed above are representative of much of the body of comparative education literature.

4. *Categorizing the Content of Comparative Education*

There are numerous ways to categorize the content of comparative education; the categorization presented below illustrates one set of topics that cover much of the field of comparative education.

(a) *Country studies.* Both individual authors and institutions have published books on country systems of education. Sometimes several aspects of education are examined, rather like the description of national systems of education in Part 2 of this *Encyclopedia*, thus producing what Germans have traditionally called *Auslandspädagogik*.

(b) *Themes within and between countries.* There has been a major move since the 1960s to shift away from country system description in order to examine themes in a national or international context. Some of the major themes identified are:

(i) *Economics of education.* Subthemes within this area include: financing of education, cost-benefit in education employment, earnings and education, economic development and education, educational expenditures, educational dropouts and wastage, female labour-force participation and education, economic performance and education of immigrants, income distribution and education, labour market theories and education, labour quality and education, on-the-job training, rates of return, sex earnings differentials, skill excess and shortage, economics of teacher supply, and youth unemployment and education.

(ii) *Education planning and policy.* Here the major subthemes are: decentralization, demography in planning, dependency, equality, ideology in educational policy, policies for the education of immigrant children, multilateral and bilateral aid to education in third world countries, school language policies, legitimacy in educational policy, literacy

modernization and education, nonformal education, educational planning and social change, planning teacher supply, planning vocational education, history of educational planning, educational reform policies, regional disparities, school mapping, and training abroad as well as some of the subthemes mentioned under the economics of education.

(iii) *Primary and secondary schooling*. Many publications deal with the structure and organization of primary and secondary schooling (including vocational education), focusing on such topics as enrolment ratios, the administration and financing of schools, special provisions for handicapped and gifted students, the teacher pre- and inservice training for these schools, curriculum development, and the policy of promotion and certification. Beginning in the 1960s there have been studies on cognitive learning and achievement and the determinants of such achievement. The most notable set of studies are those of the International Association for the Evaluation of Educational Achievement (IEA) which undertook cooperative "standardized" studies using the same measuring instruments in up to 38 countries in mathematics, reading comprehension, literature, Science, French and English as foreign languages, and civic education (Postlethwaite and Lewy 1979). The IEA currently is involved in further similar studies which will appear in the latter half of the 1980s.

(iv) *Preschool education*. The work in this area has been largely descriptive although some rudimentary attempts have been made at estimating the effects of different types of preschooling on children's later school success.

(v) *Teaching and teacher education*. Many studies have been done describing teacher education in one or more systems. Among these, one major comparative study of teaching (Dunkin and Biddle 1974) has appeared and two new international studies are underway: the effect of teacher instructional and management variables on growth in mathematics achievement in 5th grade, and the effect of various methods of teaching particular mathematics topics in 7th and 8th grade (IEA 1983). The themes most commonly treated by examining within-country data relative to this topic are: architecture of instructional spaces, class size, school size, classroom climate, classroom management, competition in the classroom, content coverage (or opportunity to learn), modes of evaluating teaching, compulsory versus optional inservice training of teachers, the intents and operationalization of various teaching methods (e.g. direct instruction, discussion, group work, mastery learning, and so on), homework, the role of laboratory schools, micro-teaching, use of paraprofessionals, paradigms for research on teaching, reading readiness, questioning techniques, teaching of minority groups, teacher centres, and so on.

(vi) *Human development*. One good example of a comparative education book in human development is *Comparing Theories of Child Development* (Thomas 1985) in which 23 theories of child development are described and compared. Otherwise, there are country studies (e.g., *Multilingualism in the Soviet Union*, Lewis 1972) or attempts to examine themes by pulling together experiences from various countries. Such themes can include attitude development, attitude differences, creativity, delinquency, concept formation, adolescence, language acquisition, moral development, self-concept development, sex characteristics and roles, and the effects of television on children.

(vii) *Curriculum*. Here the major studies inspect what is in the curriculum (in terms of general or specific educational objectives) in specific subject areas and examine similarities and differences (e.g., Steiner 1981). Given evidence from a series of studies about opportunity to learn influencing not only differences in achievement between countries but also within countries, several publications have dealt with this aspect of curriculum. A number of studies in developing countries have shown the importance of

adequate textbook supply, and this has focused attention on the production, distribution, and availability in the classroom of curriculum textbooks and other materials. The studies on the differential effect of different curricula frequently appear in journals such as *Studies in Educational Evaluation*. The work of various national centres of curriculum development is also reported (see, for example, the publications of the African Curriculum Organization or the Asian Programme for Innovation and Educational Development from the UNESCO Regional Office in Asia).

(viii) *Educational statistics*. The work of UNESCO, OECD, and the World Bank is most notable in this area. These institutions have examined enrolments, dropouts, and the retentivity of systems. In particular, these organizations use their data to extrapolate 10 to 20 years hence the enrolment ratios expected and thus estimate the number of teachers required and so on. It is no easy task to collect valid, reliable, and comparable data in countries but significant work of this type has been accomplished by the agencies mentioned above as well as by the Asian Development Bank, the African Development Bank, the Organization of American States, and individual authors, such as Johnstone (1980) in his work on educational indicators.

(ix) *Higher education*. Subthemes here focus on the historical development of higher education, the structure of higher education, the transfer of academic models, curriculum, student unrest, student loans, enrolment expansion, and, more recently, the identity crisis of schools of education.

(x) *Nonformal education*. The major nonformal emphasis has been on assessing "successful, innovative and transferable" programmes. Coombs and his associates (Coombs et al. 1973, Coombs and Ahmed 1974) have published significant work in this area. A further example is the first major study on 74 programmes in Africa (Sheffield and Diejomaoh 1972). Distance education (McAnany et al. 1983) also often comes under the heading of nonformal education.

(xi) *Adult education*. Subthemes in adult education deal partly with nonformal education as well as with the concepts and practices of lifelong and recurrent education, literacy and numeracy studies (including mass education campaigns), education for minority groups (handicapped, those in prison), legislation, the genesis of policies, and the translation of policies into programmes, participation and motivations for participation (especially among women), roles of various religious and voluntary bodies in adult education, community education, education in the military, lifespan education, the role of museums and libraries, education for leisure, and paid educational leave.

The above categories are by no means exhaustive. For example, some work in vocational, industrial, and business education has been omitted, as has the fast-growing field of comparative sport and physical education (see Haag 1987). In addition, the foregoing scheme does not include the theme of the political influences in education, although many of the authors dealing with the themes categorized above do attempt to examine the influence of political, economic, and social factors on the particular education phenomenon with which they are dealing.

5. Contents of the Encyclopedia

5.1 Part I: An Overview

From the listing given above of the various areas in which national or international studies are undertaken, it is obvious that a one-volume encyclopedia cannot have entries on every area listed. Rather, the editor has made a selection of aspects so that readers

would receive an overall impression of the field of comparative education and would gain insight into some major areas. The *Encyclopedia* has accordingly been divided into two parts: Part 1 groups together a number of articles dealing with various aspects of comparative education, while Part 2 is devoted to articles presenting descriptions of the educational systems of 159 countries.

The articles in Part 1 are presented in three clusters. The first concerns the history, concepts, methods, and approaches in comparative education. In other words, what is comparative education, how did it evolve, and how does it work? The late William Brickman of the University of Pennsylvania traces the development of comparative education through the centuries up to the present time. Max Eckstein of the City University of New York deals with many of the economic and political concepts and theories that have become part of comparative education from the end of the Second World War, but particularly in the 1960s. Both he, and Harold Noah in his article on methods, are at pains to stress there is usually no one 'right' method, but that a combination of methods are required to test specific hypotheses or theories. Noah points to how methods are changing, though always towards better descriptions, analyses, and generalizations of and about education. This first cluster concludes with an article by Kelly and Altbach of the State University of New York at Buffalo. It is entitled *Alternative Approaches in Comparative Education* and examines some of the trends in ways of examining education comparatively since 1977: within versus between nation comparisons; qualitative and quantitative approaches; some of the challenges being made to structural functionalism; and some emerging issues. This first cluster contains the type of content that is presented in all basic university courses on comparative education.

The second cluster contains five general articles on comparative education. The five themes—comparative statistics, educational policy, economics of education, area studies, and documentation were chosen because they are currently of particular general interest. "What can you compare with statistics?", or "is one attempting to compare the incomparable?", are questions often raised. "What is the study of educational policy—is it of any use?" The economics of education is said to be a "hard" subject; what are comparative studies in the economics of education? One could have selected other social science disciplines, but the economics of education is "in" in the mid-1980s. "Area studies" is a buzz word in the United States and an article has been included. Finally, for new students, learning about documentation in comparative education is a must.

The first article deals with comparative statistics in education and is by Juan Porras-Zúñiga of UNESCO, Paris. The author spends his life producing statistics about education in different nations and in his article he shows the problems that have to be overcome and the uses of comparative data, and he presents examples of trend data and projections. The second article is by Fred Coombs from the University of Illinois who presents the young field of comparative research on educational policy and indicates the different varieties of policy research undertaken. Luisa Gómez Castellanos of Teachers College, Columbia University describes the types of studies undertaken in the economics of education, the contribution of education to economic growth, the analyses undertaken of the demand for manpower, cost-benefit analyses, financing of education, internal efficiency and educational quality, and educational expansion and social equality. Philip Foster from the State University of New York at Albany explains what is meant by area studies and, finally, Michel Debeauvais of the University of Paris presents a remarkable overview of the documentation sources and networks in existence.

The third and final cluster includes articles on those aspects of educational systems where major studies have been undertaken. So, preschool education, primary and

secondary schooling, vocational education, teaching and teacher education, higher education, adult and lifelong education and nonformal education were selected. These represent the major levels of education in any system. In reading the articles in this cluster the reader must bear in mind that comparative education was defined as embracing both national studies and strictly comparative studies. Martin Woodhead and David Weikart from the United States Open University of the United Kingdom and High/Scope Educational Research Foundation in the United States together present preschool studies. Murray Thomas from the University of California at Santa Barbara describes studies in primary and secondary schooling. Rainer Lehmann of Hamburg University in the Federal Republic of Germany deals with many different types of studies in technical and vocational education. Mike Dunkin from the University of Sydney in Australia examines comparative studies in teaching and teacher education—and they are relatively few. Indeed, he has concentrated a great deal on the studies of the International Association for the Evaluation of Educational Achievement which were not designed to examine either teaching or teacher education effects, but nevertheless Dunkin has gleaned some findings of interest. Philip Altbach has written a short overview of comparative studies in higher education. *Adult and Lifelong Education* is written by Colin Titmus of the University of London in the United Kingdom who depicts comparative studies in adult education as just beginning, except for the field of literacy eradication where much work has been done. Finally, Philip Coombs examines comparative studies in nonformal education, an exploding field since Coombs published his book *The World Educational Crisis* in 1968.

In looking at the authors selected to write the articles in these three clusters one is struck by how many are Americans or appear to be so. It should be pointed out that nearly all authors (a) were born in countries other than the country where they now reside; (b) speak at least two languages; (c) have worked in several countries; and (d) are very well known names in the field of comparative education.

In looking at the articles there would appear to be a dearth of truly comparative studies though there are many national or area studies. However, as Harold Noah has pointed out, truly comparative studies require large-scale international teamwork. This is 'difficult to establish, complicated and burdensome to administer, and costly to operate'. But, international teams are beginning to be established and one might expect many more comparative studies to be reported by the year 2000.

5.2 Part 2: An Overview

The purpose of the articles in Part 2 is to present short descriptive overviews of systems of education. They were not meant to be analytical or to enter into great detail on any one aspect of education. They were meant to allow a reader unfamiliar with the system of education in a particular country to have an immediate impression with the facility of a bibliography for more detailed study.

Two general principles were used by the editor in selecting authors and in defining the length of the entries. The first principle was that, where possible, an author should be from the country concerned. Such a policy yielded both advantages and disadvantages: an obvious advantage was that such authors usually had access to up-to-date (often unpublished) information on the system in the year of writing; a disadvantage was that the author, oftentimes a member of the educational system, might be unwilling to include points of criticism. The second principle was that the descriptions should vary in length according to the size of the country.

The Appendix to this preface presents a suggested outline—subtopic by subtopic—that was sent to all selected authors with the request that they try, as much as possible, to follow the outline. With the same general structure for each country description, it was felt that readers could make their own comparisons quickly and easily.

In general, authors adhered to the structure suggested, but not always. In most cases it was possible to find an author from the country itself, either through the author's personal contact or by writing to the Ministry of Education. Inevitably, however, some ministries never replied to the letters and, in these cases, other individuals were invited to be authors. Readers will recognize that where articles have been written by persons within the system of education there is, understandably, a tendency to look at their own systems of education less critically than might someone writing from a less involved perspective.

To the Editor's knowledge, this is the first time that descriptions of 159 systems of education have appeared in one volume and, for the most part, in a form which allows not only a quick overview of any one system of education but also a quick general comparison of major aspects of education in two or more countries.

These descriptions first appeared in the *International Encyclopedia of Education* (Husén and Postlethwaite 1985). Some have been completely rewritten where there has been a major change in the system. All authors were asked to update the entries and a significant number did so.

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PART 1

Comparative Education

History, Concepts and Methods

History of Comparative Education

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The history of comparative education deals with the development, from antiquity onward, of observations and analyses offering insight into forms of upbringing, schooling, and enlightening in countries other than one's own.

1. Antiquity

The earliest efforts at educational and cultural comparison doubtless began when there was interaction between peoples of different countries because of travel, trade, war, and religious missions. Impressions and analyses were first transmitted orally, then later these were written down and circulated thus beginning the history of comparative education. If any of the peoples of ancient Asia, Africa, or the Western hemisphere have written about other peoples with whom they may have been in contact, these documents are either not extant or have not been made available through research. Accordingly, one must begin the history of comparative education by considering the works of the classical Greek and Roman writers.

2. Classical World

During the fifth century BC, Pindar was aware of evaluative comparisons of peoples' customs. The historian Herodotus included comparative comments on the culture of the Persians, Egyptians, Assyrians, Babylonians, and Greeks. Hippocrates (d. 357 BC) attributed differences in intelligence among peoples to the varying atmospheric conditions. In *Cyropaedia*, Xenophon (d. 355 BC) analyzed what he described as Persian education, thereby enabling the Greek reader to compare it with Spartan schooling. The eminent Greek historian Polybius (d. 122 BC) visited various countries and analyzed their cultures in his writings. Strabo (d. AD 24) the geographer, commented on the cultural characteristics of the Galatae of Asia Minor.

Among the Romans, Julius Caesar (d. 44 BC) made cultural comparisons of the peoples of Gaul and analyzed the cultural-educational character of the Druids. According to Cicero (d. 43 BC), Scipio Africanus Minor (d. 129 BC) contrasted Greek and Roman educational

policy. He himself repeatedly compared Greek and Roman culture and education in *Brutus*, *De Republica*, and *Orator*. Like Herodotus, the architect Vitruvius Pollio (d. 10 BC) considered climate as the cause of "mental and physical conformation and qualities" among nations. The moralist-historian Tacitus (d. AD 116) commented on the culture and education of the Jews, Britons, and Gauls. His favorable analysis of the Germans seemed to imply criticism of Roman life and society.

3. Middle Ages

The spread of commerce, travel, and Christian missions, especially during the Crusades, brought forth reports on foreign areas, including some discussing different cultures and customs. An early contributor of such data was Gulielmus of Tyre (d. 1190), who was followed by Jacobus de Vitriaco (d. 1240) and others. Travel reports were used by Roger Bacon in *Opus maius* (1267) as sources for descriptions of different peoples. He urged missionaries to study the customs, manners, and rites of all nations. Diplomats also added to cultural information about nations. Among these were the Friars Giovanni di Piano Carpini and Willem van Ruysbroek, both emissaries of Pope Innocent IV. Carpini's *Historia Mongolorum* (1247) described and analyzed Mongol customs and institutions, in contrast to those of other nations, while Willem van Ruysbroek's *Itinerarium* (1256) discussed the cultures of other regions. The travel works of the Spanish philosopher-missionary Ramón Lull (d. 1315) contributed to the knowledge of the European and Islamic peoples. Best known is the book of travels (1299) by Marco Polo, who described the Chinese and other Orientals.

There were non-European works which contributed to comparative ethnography and education, in the broad sense. The Chinese students in India, Fa-Hsien in the fifth century AD and Yuan Chwang and I-Tsing in the seventh reported on their studies and on the country. The Shiite Persian, Arabic-writing panophist al-Biruni wrote a long treatise (*Ta'rikh al-Hindi*) in 1030 on the religious, cultural, intellectual, and scientific status of India, explaining the differences between Hindus and

Moslems. Rabbi Binyamin of Tudela in North Spain traveled during 1165–73 to Jewish communities in Europe, Asia, and Africa, reporting political, economic, and educational conditions. A real precursor of comparative education was Ibn Khaldun (1332–1406), whose *Muqaddimah* (Introduction) to historiography and philosophy of history analyzed and compared the Islamic culture and education of the West and East and showed a sense of methodology and contextual relations.

4. Fifteenth Century

The growth of mercantile, missionary, travel, and diplomatic activity increased knowledge about foreign cultures. This was especially true of Venice, which required from 1268 that ambassadors report fully on their work abroad and later on the countries themselves. Poggio Bracciolini (d. 1459), the scholar who searched for and discovered ancient manuscripts, was disappointed with the quality of England's ancient collections and therefore with its state of learning. This "barbarism" was dissipated by the presence of many English students in Italian universities during the century. A real advance in comparative studies took place with the preparation of *De comparatione rei publicae et regni* (1490) by Lippo Brandolini, the humanistic scholar. Basically a somewhat subjective work comparing the governments of royal Hungary with republican Florence, it included studies of culture and education.

5. Sixteenth Century

Geographical discoveries, expanded exploration, increased trade and travel, and extended missions resulted in many reports of foreign peoples. The Jesuits wrote about the cultures of Japan, China, and Latin America. Leonard Coxe provided comparative insight into Polish scholarship (1518). Sigismund von Herberstein, the diplomat, described Muscovite Russian culture (1517–26), omitting formal education, which was scarce, while Giles Fletcher's *Of the Russe Common Wealth* (1591) attributed the low level of culture and education to tsarist tyranny.

Joannes Boemus described in 1520 the life and customs of peoples in Europe, Africa, and Asia with some references to education. Erasmus (d. 1536) evaluated England's education and scholarship on the basis of teaching and sojourning there. Wolfgang Just's account (1553) of the origins, patronage, and control of "all universities" (99 European schools), made comparisons and contrasts possible. A similar work was Jacob Middelburg's *Academiæ Orbis Christiani libri duo* (1572). Informal observations of English universities and schools were provided by Duke Friedrich of Württemberg (1592). Ethnographic and educational data about Turkey and the Near East were compiled (1560) by Guillaume Postel, professor of Arabic, Greek, and

Hebrew in Paris. Less admiringly, Bartolomeo Georgiewicz, a Croatian, devoted his *Libellus de Turcorum moribus* (1560) to life, customs, and education in Turkey. The scholarship of the Dutch and the literateness of the peasantry won the appreciation of Lodovico Guicciardini (1567). Comparisons of culture, science, and learning among the ancient European and Asian (including Islamic) nations were outlined in *De la vicissitude* (1575) by Louis Le Roy. Henry Peacham, a man of many parts, claimed that English pupils knew Latin better than German boys, but urged England to emulate the pleasant teacher–pupil relationship and the avoidance of caning found in Germany (1577). In his travel journal (1580–81), Montaigne commented on the educational situation in Germany, Switzerland, and Italy. Especially interesting is the genre of instruction books for merchants, students, and other travelers, such as Albrecht Meier's treatise, translated into English in 1589. A checklist for observations included character, manners, and "studies."

6. Seventeenth Century

During this time, with the growth in extent and depth of international contacts in politics, commerce, and religion, culture and education also advanced. Comparative studies in linguistics and religion stimulated thought about cultural and educational matters in an international setting. The French-born classicist Joseph Scaliger, professor at Leiden, chastised the Dutch, yet admitted that men and women and "almost all the servant girls could read and write" (1606). The idea of comparison appealed to travel advisers. Writing around the turn of the century, Francis Bacon recommended visits to foreign "Colledges, Disputations, and Lectures" and the selective adoption of alien customs ("Of Trauaile"). The identical phraseology appeared in Edward Leigh's *Three Diatribes or Discourses: First of Travel* (1671).

Cultural and educational comparisons were in order. Sir William Brereton, a commander in Cromwell's Roundhead army, was aware of the European reputation of the young University of Leiden, but found fault with student attire and the buildings "in comparison of Oxford schools" (1634). The Swedish ambassador–ecclesiastic, Conrad Jacob Hildebrandt, reported on his official visit to Transylvania, the Ukraine, and Turkey, including observations on education (1657–58). That visitation did not guarantee objectivity was evident in the report by Dutch religious emissaries, Jasper Danckaerts and Peter Sluyter, who criticized everyone and everything in Harvard College and castigated the character of all colonial English persons (1680). While Robert Molesworth considered Danish culture and education inferior, yet conceded that "the common People piled and edited writings on the humanities, religion, history, politics, and other subjects under the title *De eruditione comparanda* (1699). Johan Loccenius, Royal

Swedish historiographer, compared Sweden's past and present society and institutions, concluding in favor of his century. The systematic collection and interpretation of social facts and figures was inaugurated by Sir William Petty (1623–87), who suggested the compilation of data on book publishing, the arts and sciences, and the trades in an inquiry into "any country."

7. Eighteenth Century

Studies in comparative anatomy by Johann Friedrich Blumenbach and the Dutch Petrus Camper encouraged application toward comparisons in culture and education. Special attention was given by scientists to the study of the American Indian and the African Black, often with inferences as to superiority and inferiority. Interest in Russia and North America led to writings which included cultural and educational evaluations. Inside Europe, international visitors increasingly issued reports focusing on cultural and educational situations.

The Norwegian-born Danish dramatist Ludvig Holberg visited and analyzed, somewhat subjectively, the cultural-educational status of England, France, Germany, Holland, and Spain. A memorandum by Antonio Cocchi observed and analyzed the education of young English nobility, as requested by his professor in Florence (1724). An anonymous English traveler contrasted Dutch universities favorably with his own, except for the physical features (1743). The "polite learning" in the West European countries surveyed by Oliver Goldsmith underwent critical analysis, expressing most dissatisfaction with Italian universities. The German traveler Carl Philip Moritz mingled appreciation with depreciation of English education, especially Latin pronunciation by schoolboys (1782). Johan Christian Fabricius, a Dane, exposed English unfamiliarity with continental literature and learning, but praised scientific achievements (1784). Many other travel reports, observations, and assessments of culture and education in one or more of the West European countries were published during the century. In general, they included sweeping statements and undocumented evaluations. However, these paved the road toward more objective study. What was noteworthy was the awareness of educational and cultural comparison and contrast by such leading lights of Europe as Goethe, Schiller, Herder, Adam Smith, Diderot, Rousseau, La Chalotais, Condorcet, La Rochefoucauld, Arthur Young, Sir William Jones, and others.

The attraction of traveling and working in Russia lured many, few of whom wrote as perceptively of culture and education as did John Perry and William Coxe. In a turnabout, Nikolai Karamzin, a Russian historian, observed and described life and education in Germany, Switzerland, France, and England (1789–90).

Life in the New World, especially of the Indians, was depicted by French, Swedish, and other travelers. Benjamin Franklin's account of the "savages of North

America" (1784) presented an educational comparison which cut the colonists down to size.

Another preparatory step toward the development of the study of comparative education was the emergence of vertical comparison. Thus, Johann Peter Brinckmann compared ancient and contemporary education to the depreciation of the latter (1784). Pointing the way to the future was Friedrich August Hecht's *De re scholastica Anglica cum Germanica comparata* (1795).

8. Nineteenth Century

Early in the century, the literature continued to deal with comparisons between ancient and modern education. Examples of such writings are Ernst August Evers' study of Aristotelian education (1806) and Petrus de Raadt's doctoral dissertation (1819) comparing Roman and modern educational theory. However, other types of writing concentrated on current data and ideas. The reforms in education initiated by Pestalozzi attracted educators from all over Europe and the Western hemisphere to Switzerland. Later, school visitations were made to Prussia, England, and the US. In addition to the resulting descriptive reports, there also emerged some studies and plans concerned with the objective, scientific, and statistical analysis of educational systems. Also pertinent was the development of comparative approaches in linguistics, ethnology, and other disciplines.

César-Auguste Basset urged the careful study of foreign schools (1808), but it was Marc-Antoine Jullien who earned the title of "father" of scientific comparative education through his *Esquisse . . . sur l'éducation comparée* (1817). This seminal work stressed objective observation and analysis, collection of documents, and thoroughness.

Most of the many writings in comparative education were in the form of travelers' notes and individual and governmental reports. A frequent motive for the reports was to obtain a basis for educational reform. Thus, Victor Cousin of France studied education in Germany and Holland; Horace Mann of the US, schools in Prussia and elsewhere in Europe; Domingo Faustino Sarmiento of Argentina, in Europe and the US. The Japanese government sent delegations to study European and US education.

The demand for gathering and disseminating educational information was reflected by the publication of Célestin Hippeau's series of books on various countries, the inclusion of foreign education as an important component in Henry Barnard's *American Journal of Education*, the reports on education in many countries issued regularly by the US Bureau of Education, and Michael Sadler's compilations and writings in the *Special Reports on Educational Subjects* (1897–1914). It was Sadler (later Sir Michael) who did at the very end of the century what Jullien did earlier through his pioneering essay on the values of studying foreign systems of education.

Comparative education was closely connected with borrowing, transplanting, and reform. The educational ideas and methods that crossed frontiers included Pestalozzianism, Fellenbergism, Herbartianism, the Kindergarten, German higher education, and the English boarding school. Significant contributions to research in comparative education were made by educators in many countries: in England, by James Kay-Shuttleworth, Joseph Kay, and Matthew Arnold; in Germany, by Friedrich Wilhelm Thiersch; in the US, by William T Harris; and in Russia, by Konstantin D Ushinskii.

The century began with a comparative educational debate involving Comte Georges de Buffon and Thomas Jefferson. It ended with a large body of literature, university courses, and the foundations of a scientific approach to research in comparative education.

9. Twentieth Century

The year 1902 was a good one for comparative education, with the appearance of three studies—Sadler's *Education of the Coloured Race* in the US and *Contrasts between German and American Ideals in Education* and R E Hughes' *The Making of Citizens: A Study in Comparative Education*. These London publications were followed by specialized researches on teacher training and Abraham Flexner's *Medical Education in Europe* (1912). Country and regional analyses, thematic treatments, and general works appeared with increasing frequency. University courses and theses added to the available information. Both the British Office of Special Reports and the US Office of Education produced comparative and descriptive studies. During the interbellum period, important works were issued by the International Institute of Intellectual Co-operation, the International Bureau of Education, the University of London, Teachers College (Columbia University), and other bodies. After 1945, UNESCO, the International Institute for Educational Planning, the World Bank, the Organisation for Economic Co-operation and Development, the USSR Academy of Pedagogical Sciences, and other organizations added to the literature on comparative education. The Comparative (and International) Education Society (1956) and the regional and national counterparts, together with the World Council of Comparative Education Societies, promoted instruction, research, and exchange of ideas and information. New journals addressed themselves to educational issues and developments around the world: *International Review of Education*, *Comparative Education Review*, *Comparative Education*, *Convergence*, *Compare*, *Vergleichende Pädagogik*, and *Western European Education*.

The century was notable for internationally influential comparativists. Sadler, the leader for several decades, was followed by his students, especially I L Kandel, who emigrated to the US, and Peter Sandiford, who settled in Canada. Kandel's *Comparative Education* (1933) was widely studied in Europe and the US. Along

with Nicholas Hans, a Russian-born Englishman, and Friedrich Schneider of Germany, he approached comparative education from the contextual framework of history, politics, society, and culture. Joseph A Lauwerys, a Belgian-born Briton, employed philosophy and science as framework for his studies. Other specialists were Pedro Rosselló, a Spanish-born Swiss; Franz Hilker of Germany; Thomas Woody, German-born Robert Ulich; and George Z F Bereday of the US.

Cooperative studies were a development of this century. Michael E Sadler edited *Moral Instruction and Training in Schools: Report of an International Inquiry* (1909), a collection of essays on the UK, three British colonies, and eight other countries. The Internationales Schulbuch Institut, Braunschweig (BRD) sponsored and published researches on comparative textbook content since the late 1940s. Undoubtedly the most original cross-national and cross-continental research project was organized in the early 1960s by the International Association for the Evaluation of Educational Achievement. This program involved comparative testing in mathematics and other school subjects.

As a rule, the study and the practice of comparative education have served a positive purpose in educational development and reform during the nineteenth and twentieth centuries. Yet, there were occasions when the subject matter was used to pursue propagandistic and political purposes. Thus, during the First and Second World Wars books were published by combatants claiming that the opponents' school systems played a significant role in the genesis of hostilities. V-H Friedel, a French educator, characterized *The German School as a War Nursery* (1918), the English translation of which had an introduction by Sadler. Matthias Schwabe's *Die französische Schule im Dienste der Völkerverhetzung* (1940) branded the French school system as serving the interest of war-mongering.

The popular trends of quantified, socioeconomic, and public policy research and of studies of the USSR, the People's Republic of China, and the developing world have not displaced the historical and theoretical approaches to comparative education.

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Concepts and Theories in Comparative Education

M. A. Eckstein

The earliest descriptions of foreign educational practices were generally piecemeal observations by curious and interested travelers. However, with the development of national school systems in the nineteenth century, individuals were prompted to study aspects of schooling abroad by the conscious desire to inform their compatriots and improve practice in their own nations by foreign examples (Brickman 1960, Fraser and Brickman 1968). A fundamental assumption was that selected features of school administration, staffing, instructional methods, and curriculum could be imported into another country or grafted onto its developing system. While this concept was implicit or rather naively expressed in some of the nineteenth-century writings about, for example, the then relatively advanced compulsory school systems of Prussia and parts of Switzerland, many warned of the dangers of indiscriminate educational borrowing. The more perspicacious acknowledged that some school practices depended upon the specific milieu and might not be easily transferable to other social or political environments (Sadler 1964). Others feared that alien or even subversive ideas and practices might be introduced, threatening the social or political order.

By the beginning of the twentieth century, a new concept grew to dominate the thinking of many comparativists. The educational system, like a nation's political, social, or other system, came to be regarded as an integral part of the fabric of a society. Studying a nation's educational thought and practices was seen as a way to understand its social dynamics, the possibilities for change and improvement, and by extension, general patterns of development among institutions and ideas in the world at large (Hans 1949, Kandel 1933, Ulich 1961). This conception remains one of the most important ideas in the field. It accounts for the common practice of using the nation as the unit of comparison. It is also the basis of many classic studies identifying in its school system a nation's political or religious ideology as well as the values, attitudes, and social practices that mark its special identity. Thus one important difference between most comparative education writing in the mid-nineteenth century and the work of the first half of the twentieth century lies in a changed perception of the meaning and uses of comparative education: a rather narrow, utilitarian approach to school practices was succeeded by a more comprehensive approach to schooling as a system, emphasizing its potential for extending fundamental knowledge about the dynamics of societal development.

Given the view that the educational system not only characterized but also actively maintained the special identity of a nation, and in a sense held it together, it became evident to some comparativists that the same system might be a means of keeping nations apart. Especially in the aftermath of the two World Wars, some held that hostility among nations was due, at least in part, to attitudes and instruction purveyed in the schools. A new approach developed, one in which the similarities and commonalities among societies and their schooling were stressed. While the concern for world harmony may have been one part of the motivation, another was the search for more comprehensive theories of how schooling interacted with other features in society.

Comparative education work following the Second World War has been increasingly informed by a number of important ideas. First, while the school system is primarily concerned with education, other agencies also fulfill instructional functions and demand attention in comparative studies, for example, the family, religious organizations, political bodies, and communications media. Furthermore, the role of schools themselves extends far beyond the narrow definition of instruction, including as it does teaching of a wide range of ideological values and attitudes. Thus schooling cannot be properly studied without reference to its cultural setting. Second, while considerable similarities and differences may be observed from nation to nation, the education system in all countries performs a number of similar functions, including such tasks as: initiating the young into the practices and beliefs of the adult world; conserving social myths; incorporating new ideas into existing forms; and selecting and differentiating groups of people for different roles. Through their individual and common experiences in education, students are taught the technical knowledge necessary for the economic survival of the nation. But they are also taught to be followers or leaders and are differentiated by sex roles, age, and in many instances, race, religion, and occupational status. Thus there is merit in studying the different ways in which similar functions and purposes are pursued and in seeking to describe and account for the variations.

It is from the results of such comparative investigations that a number of tentative theories have emerged. These ideas depended upon the development of comparative education as a field of modern scholarly activity characterized by the modes of thought associated with such endeavors: the view that the phenomena

under study are not merely interesting but that they contain at least potential explanatory meaning; the concept of causation, that is, that the phenomena are both the results of other factors and the causes of yet further events; and, finally, the view that general criteria exist for assessing the value of concepts and theories derived from research. Comparative study of education became disciplined by the research theories and methodologies of philosophy, history, and the social sciences as they pertained to collecting and presenting data, making inferences, and asserting conclusions (Noah and Eckstein 1969).

One of the more significant developments was the view that education might be considered as a nation's investment in its own future socially, politically, and economically (Poignant 1969, Machlup 1975). Comparative study demonstrated that nations enjoying high levels of wealth, productivity, and advanced technology not only possessed school systems that instructed all their young people up to a level that ensured general literacy, but also made available extensive opportunities for various forms of secondary, higher, and adult education. This view of education underlies the burgeoning of comparative studies seeking to establish connections between types and amounts of personnel and financial investment in education and their outcomes, as well as studies seeking to identify the conditions under which certain types of educational investments are warranted. However, economic development is not the sole criterion. Education is also seen as a tool for achieving national unity or political reconciliation in societies marked by political or cultural diversity (Coleman 1965).

School systems in countries marked by similar circumstances often show similar forms. As a result, development theories have emerged in which it is held that just as there are stages in a nation's economic, social, or political development, so too there are stages of educational development (Beeby 1966). From this general view derives the idea that similar tensions, problems, stresses, or dysfunctions in the operation of school systems are to be found in nations undergoing comparable changes. Thus, the spread of general social democratic ideals is associated with efforts to reduce elitism and early selectivity in school practices, and to introduce comprehensive (that is, nonselective and multiple forms of secondary and higher) schooling from the mid-twentieth century on. By the same token, the demand for increasing numbers of highly educated persons and advanced technological skills in the most developed nations challenges the traditional autonomy and unity of university education, forcing nations to introduce new areas of study and new forms of governance and financial support to deal with the new imperatives. Different countries may respond to similar exigencies in different ways due to their respective traditions as well as to variation in the proximate causes and conditions.

In studying educational developments in the Soviet

Union, some comparativists during the early 1960s advanced the theory that some nations which contrasted with one another in political ideology, for example, and, as a consequence, differed in educational characteristics, were developing increasingly similar forms: the more decentralized school systems (the United States, Canada, and the Federal Republic of Germany) were moving toward more central influence if not control, while the more centralized were encouraging various degrees of regional or local autonomy. The more unitary academic secondary and higher education school systems were becoming comprehensive while the less selective comprehensive systems were flirting with more rigorous and structured components to their systems. These tendencies were attributed to a combination of changes in international relationships and internal social and economic conditions. This convergence theory held considerable sway for a period when political barriers and tensions among nations were reduced but appears to have dissipated since the 1970s with a general decline in determinist views.

Since the bulk of modern comparative education work at least up to mid-twentieth century has been devoted to European nations, it cannot be free from the suspicion of cultural bias. Some have argued against the determinism embedded in developmental theories, asserting that there are not necessarily any preordained stages through which all nations are likely to move and that this view is merely a result of concentration upon studies of Western and East European nations. So-called Third World countries, that is, the less developed nations, many of them former colonial territories located in Africa, Asia, and South America, may not be destined to repeat the educational and sociopolitical history of Europe because of their special cultural traditions and current conditions.

Interest by comparative educators in the general processes of modernization in less developed nations was a logical outgrowth of earlier concern with schooling and national progress. Especially since the early 1950s when many nations acquired at least nominal independence from colonial status, a growing literature has described attempts to modernize educational practices and has sought to develop theories about the relationship between schooling, political autonomy, and socioeconomic change. The underlying concept is that there are specified conditions in developing nations that stand in the way of progress and that educational development is a powerful tool to overcome them. In other words, internal characteristics such as traditional attitudes and political or social structures inhibit progress, but are amenable to change through educational as well as other means. On the other hand, a different theory holds that external factors are to blame, that the more developed nations of the world depend upon their political-economic domination of the less wealthy and powerful countries, and that educational innovations and school reforms modelled on the experiences of the industrialized nations are a means of maintaining their pre-

eminence. This dependency theory, based upon developments in social science thinking, has attracted interest among some current comparative educators (Bourdieu and Passeron 1978, Bowles and Gintis 1976, Eckstein and Noah 1985).

While one major stream of comparative work concerns itself with the interaction of educational and political, social, or economic systems, another focuses upon particular pedagogical factors. Comparisons of instructional method, curriculum, teacher training, and their presumed outcomes (student behavior, especially achievement) have long attracted the attention of writers on schooling in other countries. The crude assumption of earlier writers that there may be one "best method" for achieving superior results and that, once discovered, it can simply be implemented is no longer given much credence. But international investigations of school and other factors affecting student achievement have recently become feasible as a result of advances in methodology and technique, and the development of the machinery for international collaboration. The work of the International Association for the Evaluation of Educational Achievement (IEA) is the most sophisticated and advanced example of comparative research that seeks to enlarge the state of pedagogical knowledge about the factors that account for differences in student achievement on a global basis.

The assumptions of these works are the concepts underlying statistical or empirical methods in the sciences. They represent the view that educational and social phenomena are results of multiple causes, that there are regularities or tentative laws of input and outcomes (cause and effect), and that these are discoverable through systematic collection and analysis of the relevant facts.

However, the theoretical assumptions of the IEA and similar research activities have not been free from criticism. Some question the possibility of quantifying meaningfully the important relationships between educational and socioeconomic factors and the inference that changing one of the variables causes changes in the remaining factors, thus rejecting what they identify as a positivist view (Barber 1973, Holmes 1981).

In the early stages of a new field of study, the fundamental ideas that promote the activity and influence its direction may not be evident, even to the participants. And in retrospect, there is always the danger of reading into earlier works more than was originally in the minds of their authors, particularly with the hindsight engendered by the burgeoning of comparative work and the explosion of research methods and ideas since the early 1950s. Nevertheless, from its beginnings as a practical tool for educational improvement, through the period when it was dominated by the liberal, humanistic traditions of philosophers and historians, and on to modern times, comparative education has been responsive to the major developments within related scholarly disciplines. Varied and eclectic in subject matter,

methods, concepts, and theories, the field continues to perform two important functions. It is a source of both practical and theoretical knowledge for educational administrators, planners, and politicians, providing them with an array of case studies and alternatives, indications of possible outcomes (both intended and unintended) of specific programs or policies, and a context for understanding school practices and problems. At the same time, as a component in the education of teachers and others involved in professional education, comparative education serves to combat provincialism and ethnocentricity, to motivate study of the history and development of school systems, and to increase awareness of the interplay between schools and their social and cultural environments.

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Methods in Comparative Education

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Comparative education uses data from one or more countries or regions (a) to describe educational systems, processes, or outcomes; (b) to assist in the development of educational institutions and practices; (c) to throw light on the relationships between education and society; and (d) to establish generalized statements about education that are valid for more than one country. In carrying out these tasks, research workers in comparative education have for the most part relied upon concepts and models drawn from history, philosophy, psychology, and the several social sciences. At the same time, these researchers have led in the development of internationally applicable classifications of educational systems, internationally accepted school-leaving and college-entrance credentials, internationally comparable tests of school achievement, internationally conducted reviews of national policies for education, internationally valid protocols for the observation of teachers' classroom behavior, and schema for the analysis of textbook content in different nations.

Major problems of comparative method are:

- (a) costs and difficulty of assembling data from foreign sources;
- (b) lack of comparability of data collected;
- (c) uncertainties with regard to the validity and reliability of data collected for domestic purposes by national authorities who were not concerned with the use of such data in cross-national comparison;
- (d) problems associated with construction of valid scales along which national units may be arrayed; and
- (e) ethnocentric bias in defining the topic to be investigated, establishing the bases for classifying data, drawing inferences, and making policy recommendations.

In general, successful surmounting of these problems requires (though it does not guarantee) rather large-scale international teamwork. This is difficult to establish, complicated and burdensome to administer, and costly to operate. Hence, progress toward their satisfactory solution has been slow.

1. Description

A fundamental task of comparative study of education is to collect, classify, and array data about the educational efforts of the nations of the world. Encyclopedic endeavor of this kind was first proposed, appropriately enough, as an offshoot of the Enlightenment movement in France, and its genesis has been ascribed to Marc-Antoine Jullien de Paris (Fraser 1964). Jullien proposed that each government be asked to complete a questionnaire, covering the major aspects of schooling in its jurisdiction. The responses were to be collated, tabulated, and published, thus providing a standard against which each nation might measure its progress or shortcomings. Work of this type has been an enduring aspect of comparative study. Many governments undertake studies of foreign education, usually concentrating on aspects of education that happen from time to time to be of particular relevance to the initiating government.

Since about 1850, much use has been made of descriptive statistics to compare aspects of the educational systems of the world's nations. In most instances, the raw material has come from the countries' official statistical publications. Statistical coverage has typically included: totals and rates of pupil enrollment, attendance, dropout, and completion (graduation); numbers and types of teachers, schools, and school buildings; and public funds spent. Over time, collection networks have been enlarged and systematized, publication has become more regular and more timely, and improved modes of presentation have rendered the juxtaposition of statistics from a large number of different countries more intelligible. Although a great deal of work has been done to devise an internationally applicable classification of educational systems (UNESCO 1975), the use of such statistics in comparison is still subject to severe limitations, and is always to be approached with caution. However, perceptible, if slow, progress is being made in forging genuinely comparable educational statistics on an international scale from the statistical raw material available from national sources.

Beginning with the establishment of the International Bureau of Education, Geneva, in 1925, sustained international surveys of "the condition of education" have been a regular part of the work of a number of international agencies, most notably UNESCO, the Organisation for Economic Co-operation and Devel-

opment (OECD), and the Council of Europe. The method adopted is typically that of Jullien: a questionnaire is completed by a ministry within each government and the responses are classified and published, sometimes with analysis, sometimes without.

The descriptive aspect of comparative education is also frequently to be seen in the work of individual scholars who undertake "country studies" (the term *Auslandspädagogik* is often used to describe such studies). In their earliest forms they were usually the result of the author's foreign travels and reported on observations, conversations, and the study of relevant documents. Part diary, part report to some official or quasiofficial sponsor of the trip, they were frequently intended as evidence in support of a program to revise domestic educational practices. The best of the studies, by such authorities as Victor Cousin (France), Horace Mann and John Griscom (United States), and Matthew Arnold (England), demonstrated a keen insight into the historical background of the contemporary scene, plus a lively writing style.

By the last quarter of the nineteenth century a stream of studies on "foreign" education had begun to appear in England, Germany, Russia, and the United States. Still closely tied to the authors' opportunities for work or study abroad, they gave evidence now of increased sophistication in the use of historical concepts, historiographical and documentary techniques, philosophic speculation, and pedagogic understanding. The publications described entire national systems, parts of these systems, and aspects and styles of schooling.

The production of country studies continues unabated, and has become more and more closely identified with the so-called problem approach in comparative education. This "involves a selection of one theme, one topic, and the examination of its persistence or variability throughout the representative educational systems" (Bereday 1964); or the identification of a specific problem in educational management or policy (e.g., church-state relations, modes of financing, coordination of higher education institutions), and the tracing out over a number of countries of the ways in which the problem manifests itself and is dealt with (Holmes 1965). Especially in the problem approach, which may begin with description, there is increasing ambition to move toward analysis of the causes and correlates of what is observed, in the hope that knowledge gleaned from comparative study "can contribute to the planned reform of education" (Holmes 1981).

2. Development

Changes in an educational system are often affected by foreign example. Patterns of influence of one nation upon another have been traced. Sometimes the borrowing is quite explicit, and nations seeking to develop their educational systems send out official or semiofficial observers to study particular foreign systems. For

example, the Japanese borrowed extensively from France and Germany in formulating the expansion and modernization of their education after 1868 (Passin 1965); and from about 1965 on, many elementary-school teachers in the United States looked to English and Welsh methods in primary education for guidance and example in running their classrooms.

At other times, when foreign models have arrived in the knapsacks of conquering armies, borrowing from abroad became a species of implantation. In this fashion, the socialist countries of Eastern Europe have found it desirable to model the basic elements of their school and higher education systems on the example of the Soviet Union (Grant 1969); and the post-1945 occupation of Japan by the United States brought with it, among many other changes for Japanese society, a substantially Americanized structure and content of education (Passin 1965).

A sustained debate within comparative education has centered on the feasibility and desirability of relying on such borrowing. Although there are many examples dating from earliest times of rather uncritical acceptance of foreign practices, the majority of thoughtful writers in comparative education have warned against this. An early example of such appropriate caution was given by A. D. Bache, who journeyed to Europe from the United States in the late 1830s. In his report to his sponsors he observed that while the general principles of education might be common to all nations, efforts must be made to ensure that these general principles are indeed viable for a particular country:

Differences in political and social organization, in habits and manners, require corresponding changes to adapt a system of education to the nation; and, without such modifications, success in the institutions of one country is no guarantee for the same result in those of another. (Bache 1839)

Comparative educators, concerned as they are with the potential of their subject to inform and improve education, have been paying increasing attention to this set of considerations, and are doing so with growing sophistication. They have emphasized the importance of compatibility between the innovation to be imported and the entire complex of history, aspirations, and institutions of the receiving country. The conditions governing the successful cross-national transplant of innovations have been studied using the methods of anthropology, sociology, systems analysis, and intellectual history (Holmes 1981).

3. Relationships

Comparative education has investigated many relationships within the educational system, for example, how patterns of teacher recruitment, training, and promotion are related to pupils' scholastic achievement (Passow et al. 1976). But even more attention has been paid to relationships between education and other aspects of society. In doing this, the field has followed

the dictum of Michael Sadler that what goes on outside the schools may be as important, and perhaps even more important, than what is observed inside them. External conditions, aspirations, and resources are viewed as both determining and justifying (for a given nation) internal school arrangements. More precise formulation was offered by Peter Sandiford, who sought "... to explain educational principles and tendencies in terms of social, economic, and political antecedents of each country under consideration" (Sandiford 1918). I. L. Kandel and Nicholas Hans developed comparative analysis along these lines and in doing so profoundly influenced the methods of the field. They drew from political philosophy, political and social history, sociology, and geography to illustrate how major "forces and factors" have in some instances opened rich possibilities for innovation in education, and in other instances have imposed severe constraints, thus molding the shape of what is presently observed.

Much work continues to be done along these lines. For example, relationships between nation building and schooling have been explored using political theory, surveys of civic knowledge, and textual analysis of laws and regulations governing civic education. Cross-national investigation of the relation between social class structure and intergenerational social class mobility on the one hand, and schooling arrangements on the other, has employed many of the tools of the sociology of education. Since the mid-1950s there has been a substantial increase in the number of studies that use the concepts and methods of economics.

The early studies were mainly qualitative and where statistics were used they played a descriptive role. Thus, in Kandel's work broadly accepted statements about the nature of political systems (parliamentary democracies, oligarchies, and totalitarian regimes) were related to aspects of the schools—their organization, curricula, and aims. The later trend has been toward more quantitative studies, and statistical methods have been employed to test the validity of specific hypotheses. For example, correlation coefficients have been calculated to quantify the relationship between economic growth or development and educational provision among 75 countries (Harbison and Myers 1964, Kaser 1966). Other work in economics has surveyed rates of return to education in 32 countries (Psacharopoulos 1973). Increasingly, multivariate statistical techniques (in particular, regression analysis) are employed. The very large-scale work of the International Association for the Evaluation of Educational Achievement (IEA) has used such techniques extensively to explore relationships between pupil, school, and societal characteristics and achievement in school subjects (Walker 1976).

4. Generalization

Comparative studies have been most often employed to make statements about individual national systems of education, although findings about a foreign system, or

systems, are also frequently juxtaposed to the investigator's own national system, so that comparisons of aims, practices, results, and so on, are made. Essentially, studies of this type attempt to map as fully and precisely as possible the terrain of a nation's educational system. The work may be left in the form of a country "case study." Alternatively, some comparison may be undertaken using evidence from other systems. Gradually, generalizations that are valid across a number of countries may be built up. Thus, what begins with a series of country studies ends with generalizing statements about relationships among variables. An early example of such work used figures of school enrollment ratios in the countries of Europe to generalize about the association between religious denomination (Catholic or Protestant) and educational progress (Levasseur 1892).

Attempts to use comparative data as a basis for generalization continue to expand, both in number and sophistication. They begin, as before, with country studies and end with comparative synthesis. However, the primary goal, which used to be the most complete description possible of other educational systems, and the most telling comparison of one system with another, has undergone a rather marked change. The modern tendency in comparative studies is:

- (a) to place primacy on the careful identification, validation, and measurement of variables;
- (b) to show the relationships among those variables within each country;
- (c) to compare cross nationally the direction, size, and confidence levels of statistics measuring these relationships; and
- (d) to rely upon such factors as "national character," or "historical background," for explanation and generalization only when the introduction of additional variables yields no gain in explanatory power.

Thus, the paradigm situation calling for the employment of comparative method occurs when no amount of within-system (nation) adjustment of either the independent or dependent variables can reduce the across-nation differences in observed relationships. At that point, the researcher asks: what are the system-level factors that are at work, influencing the relationships among within-system variables? At this point, the names of countries are introduced to tag bundles of otherwise unexplained variances. In this way, the objects and methods of comparative study have been changing since the early 1960s from the traditional attempt to extend and enrich as much as possible the connotational content of country names, to the newer attempts to make general "law-like", cross-national statements, bringing in country names only when ability to make valid generalizations across countries fails (Noah 1973).

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Alternative Approaches in Comparative Education

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Comparative education is characterized by a wide diversity of approaches, perspectives, and orientations. Since its beginnings, the field has had many contending methodological approaches, ideological orientations, and topical interests. Orientations have changed over time. Topical foci have sometimes coincided with broader educational issues, while at other times they have emerged from concerns within the field of comparative education. It is possible to see some concerns or orientations that are typical of the scholarly communities in particular countries or regions. The very diversity of the field is one of its strengths—it permits scholars a wide latitude of approaches and topical concerns. The debates over methodology and related issues have helped to sharpen discussion and to move the field forward. Some of the contemporary alternative viewpoints that characterize comparative education will be presented in this article. Particular attention is given to trends that have emerged since two of the major journals in the field published special issues focusing on the state of comparative education (*Comparative Education Review* 1977, *Comparative Education* 1977). One major concern is to stress alternative viewpoints—perspectives that are not in the mainstream of analysis in the field. The article will conclude with a brief discussion of some of the ways in which the field has reacted to these challenges. Some of the substantive and methodological alternatives posed by scholars of comparative education in the past decade will be touched upon briefly.

The fact is that in the last decade many of the traditional approaches that underlay the field have come under criticism. Some have questioned the national comparisons that have traditionally characterized research and have argued cogently for world systems and regional analysis as a means of looking beyond the nation-state. Others have challenged the field to move beyond quantitative studies of school outcomes to qualitative research on educational processes. The theoretical assumptions that had guided the field, especially in North America, particularly structural functionalism, have also emerged as a subject of active debate. Some scholars have begun to explore alternative perspectives such as conflict theory, legitimation theory, and Marxism. Simultaneously, scholars have challenged the field to consider subjects of inquiry it had hitherto ignored. Among these are women's education, the concrete study of social and political institutions, and how knowledge is disseminated, produced, and used. Since about 1975, scholars in comparative education have also turned to reconsidering old questions, especially the role of education in bringing about modernization and social change. While much of the discussion will focus on alternative approaches from the "left," criticism has come from all ideological quarters.

Since the late 1970s and early 1980s four kinds of challenges have emerged to established research traditions in comparative education. These are: (a) those that question the nation-state or national characteristics

as the major parameter defining comparative study; (b) those that question the use of input-output models and exclusive reliance on quantification in the conduct of comparative research; (c) those which challenge structural functionalism as the major theoretical premise undergirding scholarship; and (d) those which direct attention to new subjects of inquiry. Some of these challenges began prior to 1977 and many reflect trends in other social sciences. Prior to 1977 these issues scarcely entered the discourse of the field and were not promoted through its major journals or texts.

While the challenges to the field have been grouped into four categories, the authors are aware that there is some overlap among them. For example, world systems analysis, which looks at international inequalities between nation-states in examining educational expansion, is guided by conflict theory and, in some instances, by Marxism. This is also the case with research that has developed on women and sex differences in education cross-nationally, knowledge distribution and control, and the politics of educational planning. Regardless of the overlap, it is useful to discuss the challenges and focus on alternative approaches to analysis.

1. Challenges to the Nation-State as the Exclusive Research Framework

Until recently, most research in comparative education focused on the nation-state and/or characteristics of nation-states treated as autonomous units. Indeed, much of the field was composed of studies which applied a method derived from the social sciences to the study of education in a particular nation or which simply described education in a specific country. Often research asked how education contributed to the development and maintenance of social structures within that nation-state and compared education's role in one country with its role in another (Kelly and Altbach 1981 pp. 1-27). When the focus was on individual attitudes, research was situated in the context of school systems in a single nation presumed to be autonomous and co-equal with others. This framework predominated region-wide studies which, while dealing with Southeast Asia, Africa, Latin America, or Eastern Europe, focused on education in individual nation-states within that region which presumably shared similar cultures, histories, economic, or political structures. Topically based studies were also situated in national frameworks asking, for example, if one national school system was more conducive to economic growth than another.

Scholars like Meyer (Meyer et al. 1971 pp. 242-58), Zachariah (1979 pp. 341-54), Arnove (1980 pp. 48-62), and Altbach (1979 pp. 188-204) challenged the use of the nation-state as the dominant category guiding comparative research. They argued that educational systems in one country were often affected more by factors outside that country than they were by factors inside it and urged research to focus on identifying these external forces. Martin Carnoy's book, *Education as*

Cultural Imperialism, marked the beginning of such scholarship in the field (Carnoy 1974). In the past decade the number of works of this nature in comparative education has increased markedly.

In 1979 Meyer and Hannon published *National Development and the World System* (Meyer and Hannon 1979). They pointed out that educational expansion in the post-Second World War period could not be explained by reference to a single nation-state or its political structure, the way it organized power, how its economy was controlled, or its peculiar social structure. The drive for universal primary education and the unparalleled expansion of education at the secondary and tertiary levels had little to do with national educational policies either. Meyer and Hannon maintained that, given changes in technology and communications and the internationalization of the labor market, education functions within a transnational context. They called upon the field to reorient its inquiry by looking at what they called the world system, rather than merely at the nation-state.

Meyer and his colleagues, as well as other scholars who focus on world systems analysis, use a range of perspectives in their work. Meyer and his co-authors, for example, argue that the structure of an individual nation's political and economic system has relatively little to do with either how education is organized, its content, or the background characteristics of those who go to school. Wallerstein, on the other hand, discusses the nature of the world system by using Marxian frameworks although his work is not directly on education (Wallerstein 1974). Most of the scholars directly in the field of comparative education utilize a range of explanatory frameworks in their own work on specific aspects of how relationships between nations, regions, classes, or groups within and among societies affect schooling and its social, economic, and political outcomes. Altbach, Arnove, Carnoy, Zachariah, and Silva (Silva 1980 pp. 63-72) all argue that national school systems exist within the context of unequal power relations among nations. They argue that either through design, historical circumstance, or the contemporary distribution of resources, including intellectual resources, the Western industrialized capitalist nations dominate the economic and educational systems of the less industrialized countries. Silva argues that educational dominance patterns parallel trading blocs. Altbach discusses how the knowledge that schools distribute in the Third World is generated, controlled, and disseminated by the United States, the United Kingdom, and France. Carnoy contends that such controls seek to maintain existing international inequalities and keep the Third World underdeveloped and dependent.

World systems analysis challenges comparative education to go beyond the nation-state as the major analytical category guiding research and to look at regional variations, racial groups, classes, and other such characteristics which are not necessarily bound to the nation.

Other scholars who have not used the world systems approach have come to similar conclusions, frequently based on micro-analytic research. Notable among these are those scholars who have focused on regional variation.

Research in comparative education before 1977 focused on schooling within a nation-state; rare was the scholar whose work centered on regional variation beyond urban/rural distinctions that were applied to Third World nations and, in the case of a few studies of African nations, ethnically based distinctions. Comparative work took the nation-state as the boundary for comparison and referred to it in tracing school/society relations. Comparative research did not inquire as to whether there were major regional variations in the pattern of educational diffusion or in the determinants of educational access and outcomes within a nation-state. Proponents of the analysis of regional variation argue that comparison among regions within nation-states is as significant as comparison between nations. The challenge to pursue such a line of analysis was developed by Craig and Archer in their work tracing the spread of education in the nineteenth century (Archer 1982). It was also advanced by Bowman (1984) and Plank (1983). All of these scholars showed that educational variance often is as great, if not greater, between regions within a nation as it is between nations. The determinants of women's education, for example, are not the same in northeast Brazil as in the dominant south of that country; class and ethnicity may not operate similarly in regard to educational access and outcome throughout a single nation. They have pointed to the obvious—the necessity of looking at regional variation given growing trends to decentralization of education and deconcentration of educational decision making in much of the world.

While world systems analysis and analysis of regional variation challenge established research traditions, they represent but one set of challenges to emerge since 1977 in comparative education.

2. Challenges to Input-Output Models and Total Reliance on Quantification

Much research in comparative education in the past tended to focus almost exclusively on the quantitative analysis of educational outcomes. Research assumed that the outcomes—like modern attitudes or academic achievement—could be attributed to whatever schools taught without necessarily studying schools. The field, aside from isolated anthropologically based descriptions of the school as a social system and descriptions of curricular guides and texts, tended to ignore the direct study of school practices. The studies of the International Association for the Evaluation of Educational Achievement (IEA) stood as an exception. They, however, focused on the quantitative dimensions of school practices (number of hours of instruction in a given subject matter, class size, and the like).

Scholars such as Masemann (1983 pp. 1–15), Weis (1982 pp. 485–501), Heyman (1979 pp. 241–49), and Pfau (1980 pp. 400–14) argued that the study of school processes was too long neglected in the field. Quantified input, process, and outcome data had failed to draw any clear-cut relations between the inputs to schooling, what schools actually taught, what students learned, and how student cognitive outcomes related to societal outcomes. Such knowledge, they argued, could not be generated via quantification as in the IEA studies. They asserted that school practices cannot be reduced solely to the hours per day spent teaching a school subject, class size, the methods teachers stated they used in the classroom, or hours of homework. Rather, school practices include the nature of student/teacher interactions, the social organization of the classroom and the “noise” surrounding instruction. Knowledge about these, they maintain, can only be generated by qualitative research methods that focus on actual, lived educational practices and processes.

Heyman and Pfau urged comparative education to adopt ethnomethodological techniques derived exclusively from anthropology; Masemann and Weis, in their respective works, challenged the field to go beyond anthropological traditions and relate educational processes to broader theories of school/society relations. Weis pointed out that such scholarship could adopt varying theoretical perspectives, including either structural functionalism or Marxism (Willis 1977, Bourdieu and Passeron 1977, Ogbu 1978).

While the challenge to engage in qualitative research on educational processes in the light of social theory does not necessarily entail a paradigm shift in the field, paralleling interest in such studies has increased the questioning of the dominance of structural functionalism in guiding research in comparative education.

3. Challenges to Structural Functionalism

Until the 1970s, comparative education in North America was largely influenced by structural functionalism. This was not surprising given the domination of this perspective in many of the social sciences. The “state of the art” issues of the *Comparative Education Review* (1977) and of *Comparative Education* (1977) were largely in this tradition. The field either asked how education functioned to maintain the social fabric, or how it could be made to function, in the case of the Third World, to develop a nation-state generally along Western models. It was assumed that what was good for the nation also benefitted all in the society. In this context, conflict, as Bock (1982 pp. 78–101) and Paulston (1983, pp. 21–70) so aptly point out, was considered dysfunctional at best. While many questions about functionalism were raised outside comparative education before 1977, few within the field paid much attention to the debates in sociology and political science. Kazamias and Schwartz (1977 pp. 153–76) in their essay prefacing the *Comparative Education*

Review's "state of the art" issue, noted the dominance of structural functionalism in the field and urged that scholars inform their works with different perspectives. Other voices joined them. Carnoy (1974), Altbach (1982 pp. 469–84), Arnove (1977 pp. 100–26), Apple (1978 pp. 367–87), and Levin (1978 pp. 434–51) began to look at how educational systems served societal groups differentially and how social inequalities were played out at the regional and international levels. Carnoy, Apple, and Levin emphasized the relationship between education and the development of capitalist relations and argued that the nature of economic systems and of state control made a difference in what schools teach and with regard to the outcomes of education.

Paulston (1983 pp. 21–70) has argued that reliance on functionalism has led the field away from correctly analyzing education in most social settings and led it to place too much stress on the national environment rather than on the roles that education might play in society and its myriad institutions. Bock (1982 pp. 78–101) makes a similar point. He asserts that most developing societies are plural societies characterized by conflict, wherein dominant groups seek to legitimize their control over the state. At the same time, minorities attempt to use education to improve themselves and sometimes to unseat the dominant groups. Bock shows us that education assumes contradictory roles—it is at once oppressive and liberating. Paulston and Bock and more recently Weiler (1983 pp. 259–77) see alternatives to functionalism in conflict theory and legitimation theory; others have adopted a classical Marxian perspective.

It is not the authors' intention in this article to explore in depth these alternative theories; rather, the point here is to show that alternatives to structural functionalism have been articulated in the field. These alternatives have also led to changes in research concerns; these are discussed below.

4. The Emergence of New Research Concerns

Comparative education until recently was a field that focused mainly on issues of education and development, educational planning, on the individual outcomes of schooling in the context of the nation-state, and on a range of descriptive analyses and discussions of educational systems and issues. Most of the research was informed by structural functionalism or was basically atheoretical and descriptive. Few qualitative studies appeared in the field's journals that sought to understand what schools taught and to relate educational processes to outcomes of education. Over the past decade the field has been challenged to study subjects it had hitherto ignored. These range from including women both as a category and as a central concern of research, to looking at the ways in which knowledge is disseminated, produced, and used, to new ways of looking at educational institutions and their relation to society. A major research challenge in all instances has

been to reorient study away from preoccupation with individual outcomes and attitudes to looking at institutions—ranging from schools, to the state, to international agencies—and to the relationships among them. The research challenge that emerged was to chart institutional content—how institutions like schools, planning agencies, the government, etc. were organized and controlled and the effect that these institutional arrangements have on educational outcomes. Some of these challenges that have arisen in the past decade will be discussed here in terms of how education is planned and controlled, how educational contents are structured and distributed, and how schools shape the social reality of their pupils.

While comparative education has a substantial literature on educational planning, much of that literature focuses on the technical aspects of planning and its outcomes—whether goals were or were not fulfilled. New scholarship has appeared that looks at the institutional context of planning—who plans what in whose interest and the relation between planning and structured inequality. Studies like Urwick's (1983 pp. 323–40) on Nigeria, McGinn et al. (1979 pp. 218–39) on planners in Chile and Salvador, and McGinn and Street's (1982 pp. 178–98) on Mexico are in this vein. Others have looked at institutional capacity to plan and the mechanisms by which plans are put into practice and the impact of political parties with distinctly different ideologies on planning. Some of these institutional studies have focused on the roles of international agencies in forming and implementing national plans—for example, Dove's (1982 pp. 165–82) research on universal primary education in Bangladesh. These works challenge the field to look at institutional processes in the context of national and international politics.

While much scholarship that has emerged in the past decade has called the field's attention to the institutional processes of planning, related research has been done on how knowledge is generated and used in educational systems to make educational policy and shape society. Much of this research, but by no means all of it, stems from world systems analysis and conflict theory. Some scholars have been concerned with knowledge distribution systems. Altbach's (1982 pp. 85–106) work on transnational publishing, for example, focuses on how books are produced and distributed internationally and the implications for educational and knowledge systems within specific countries. Others have been concerned with knowledge generation and control. Berman's (1979 pp. 145–79) research on the role of philanthropic foundations is an example of a concern with the factors that influence research and development and the role of Western private foundations in the development of knowledge. Knowledge utilization has also been analyzed. Ketudat and Fry (1981 pp. 141–52), among others, studied how educational planners use research to guide policy. Coleman (1984 pp. 180–202) has considered the role of United States trained political scientists in Africa and has written on the impact of

foundation assistance in Africa. Weiler (1984 pp. 168–79) and Altbach and Lulat (1985 pp. 1–66) have written of the impact of foreign study on education and development in the Third World. This research has looked at student flows, on the curricular and attitudinal aspects of foreign study, on the relationship between foreign study and research, and on other aspects of the “political economy of international study.” These studies, and many others, have focused on the nature of knowledge transfer and its impact on the Third World (Eisemon 1981 pp. 164–82).

There has also been an interest in what kind of knowledge enters the classroom and how that knowledge is communicated. Heyneman’s (1978) research on the role, availability, and effectiveness of textbooks in Third World nations is an example of such scholarship. There is also a growing body of research that seeks to understand the nature of social reality conveyed in textbooks used in the Third World and the relationship of this reality to development and culture (Biraimah 1980 pp. 196–208).

While comparative education has traditionally been concerned with school outcomes, there has been a new interest in the detailed study of the content of schooling and with the internal workings of the school. Some of these studies have used ethnographic and participant observation research tools to search deeply into the internal life of educational institutions. Willis’s (1977) study of British working class boys is an example of this trend. Other studies have looked at the interaction between the formal and the “hidden” curriculum in schools in an effort to understand school cultures (Biraimah 1982 pp. 161–75). Some researchers have looked at a range of variables to obtain a broad picture of the impact of education on students and on the society. Cummings’s (1980) study on Japan takes such an approach. Shirk (1982) and Unger (1982) have analyzed education in China during the Cultural Revolution from this perspective. The originality of this research is its concern with the internal culture of the school, the “in-school” outcomes of education, and the relationship between these factors and society.

Another important and new stream of scholarship has been gender studies. The field in the 1980s has been challenged to look at women in the context of educational and social structures that have resulted in gender-based inequalities. This scholarship has pointed out that research can no longer assume that findings based on the study of male populations are necessarily relevant for females as well. The 1980 special issue of the *Comparative Education Review* (Kelly and Elliott 1980 pp. S1–S12) challenged the field not only to include gender as a background variable in research, something almost totally neglected in comparative education, but also to make women a central research focus. The field was also stimulated to ask how education changed women’s lives in the family and in the workforce and not confine itself to asking whether educational outcomes for males and females were the same (Kelly 1984 pp. 81–89).

5. Conclusion

This discussion of new currents in comparative education is far from complete; it has been but a brief overview. While the focus here has been on the “new,” comparative education has, as a field of study, shown considerable continuity both in its approaches to research and in the theory underlying such research. Since 1977, however, there have also been some signs of change. The optimism that pervaded the field in the 1960s and 1970s that education could be a force for social equality has been muted by years of attempts, not all successful, to reform both schools and society. This sobering has been the case especially in the scholarship on comprehensive school reforms in Western Europe (Levin 1978 pp. 434–51), the Chinese experiments during the Great Proletarian Cultural Revolution (Shirk 1982), and in evidence drawn from the Soviet Union (Lapidus 1981) and Eastern Europe (Fizman 1982 pp. 381–410). The thought that expanded enrollments and common schooling would change social structures or the effect of parental education, income, gender, and race on children’s life chances, has become a subject of debate.

Much of this discussion was stimulated by a radical critique of structural functionalism which assumed that over time transformation of society could occur without changes in social structures. The radical critique, clearly articulated by Weis in her study of Ghanaian secondary schools and by Levin in his study of Western Europe, to name but two, argued that without changes in social structures, the schools could only reproduce existing social relations and the inequalities currently structured into them. Others in comparative education maintained inequality was difficult, indeed almost impossible to eradicate, even if basic social structures were changed. Such was the argument made by Court (1979 pp. 20–62) in his study of educational expansion and inequality in Kenya and Tanzania. Morrison’s (1967) research on Tanzania and Dobson and Swafford’s (1980 pp. 252–69) work on the Soviet Union also reflect these concerns.

Comparative educators have, to some extent, become more pessimistic—some would say realistic—about the role of education in shaping social change and contributing to economic development and modernization. This “new realism” has been stimulated to a considerable degree by the insights of the radical critics of the past decade as well as by the failure of many of the educational panaceas of the 1960s and 1970s. The fiscal crisis of the 1980s as well as the lowered expectations of the current period stimulated further critique and analysis, this time from a more conservative position. Coombs (1985), Psacharopoulos (1977 pp. 69–90), and Thobani (1984 pp. 402–23) have questioned the viability and, to some extent, even the desirability of the vision of universal, free primary education and total literacy for Third World nations. Some have argued that not only is universal primary education a luxury, but in some cases it discourages efficient use of resources.

In the 1980s some elements of the field have turned increasingly to the concept of privatization as a means to improve economic efficiency in the provision of education and to enhance educational quality (James 1984 pp. 605–24). The recent debates on educational vouchers and on the imposition of school fees represents a return to some of the debates of the 1950s.

The field has recently reconsidered with increasing frequency the role of education, of any sort—formal or nonformal, vocational or general—in development. In the 1960s and 1970s many hoped that, given the proper form and content of education and its widespread diffusion, Third World countries would industrialize and become modern and the poverty and accompanying ills that were associated with underdevelopment would be eradicated. The vision was development and the field assumed that no matter how poor a country was, education would lead to the creation of human capital, which in turn would develop the nation to the levels of most Western countries. Much empirical research has shifted from modernization as its major focus to a focus on education's relation to the provision of basic needs: to crop production, to small scale technology, marketing, and to family health and nutrition. Education is increasingly being looked to for survival or as a means of stemming a demographic and ecological disaster. The vision of what it means to develop human capital, the role of schools in both modern industrialized societies and in Third World nations, and the prospects for educational development have all come under scrutiny in the past decade.

The challenges to the field are methodological, substantive, and ideological. Comparative education continues to pay attention to many of the key issues that have animated it since the beginning, but increasingly the field has turned to new perspectives and challenges as educational realities have changed.

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General Comparative Education

Comparative Statistics in Education¹

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Educational statistics have gained considerable importance since the early 1960s in consonance with the recognition of the central role which education plays in economic and social development. As education systems broaden in importance, size, and complexity there is a growing demand for more precise statistical information for planning and administration. Educational problems and development in a given country are increasingly studied with reference to other countries or within a regional context. This has promoted improvement in international comparability of statistics of education. Considerable progress has been made, but much remains to be accomplished, given the difficult problems in this area caused by the wide variations in national educational structures and the institutional differences between countries. This article discusses education statistics mainly from the viewpoint of comparability of data: sources of comparable data, international standardization, and uses and reliability of data.

1. Sources of Data

1.1 National Sources

The primary statistical sources are the educational institutions, both public and private: schools, universities, and so on. In most countries the responsibility for collecting and presenting the data lies with the statistical service of the ministry of education or central statistical bureau. The pattern varies depending on the more or less centralized nature of the education system. In some countries, for instance, higher education statistics are the responsibility of a ministry or national council for higher education, while data on out-of-school and adult education may depend on a separate ministry. Data on educational expenditure may be provided by the ministry of finance. Data are usually collected by means of regular questionnaires sent out to all schools by the statistical service of the ministry of education, while some countries maintain individualized data-collection

systems for upper-secondary or higher education. On the other hand, certain types of data which need not be collected on a complete enumeration basis are increasingly being obtained through sample surveys. In general, the central statistical office is responsible for data on the educational characteristics of the population. Such data are collected as part of the population census.

Most countries issue at least one annual publication containing detailed education statistics. Summary data are also shown in the general statistical yearbook of the country. UNESCO has issued a document (UNESCO/International Bureau of Education 1977) providing a list of the national services responsible for educational statistics and for the titles of their most relevant publications. A UNESCO study (1973) which attempts to describe the system of educational statistics of Malaysia is a useful illustration of the complexity and of the wide field covered by educational statistics.

1.2 International and Regional Sources

At the international level, UNESCO is responsible for statistics in the field of education, in the same way as the United Nations is responsible for demographic statistics and the International Labour Organization for labour statistics. A United Nations document (1982) indicates the large number of international statistical series, covering many different subjects.

UNESCO collects statistical information on pupils, teachers, expenditure, and so on from all countries and territories by means of annual questionnaires complemented with national publications. The data bank of the UNESCO Office of Statistics contains a large amount of data from 1960 onwards: enrolment by level, by sex, by age, by field of study for higher education; foreign students, graduates; teaching staff by level, by sex; number of institutions by level; educational expenditure; illiteracy; educational attainment, and so on.

Data are regularly published by UNESCO, mainly in the UNESCO *Statistical Yearbook*, the *Statistical Digest*, and in a series of statistical reports of a more analytical nature. These reports usually concentrate on the following: the quantitative development of education; enrolment projections; trends in enrolment in higher

¹ The author, a UNESCO staff member, is responsible for the choice and presentation of the facts contained in this article and the opinions expressed therein, which are not necessarily those of UNESCO and do not commit the organization.

education; trends and patterns of wastage (repetition and dropout), foreign students, and educational expenditure. An annotated bibliography of UNESCO statistical publications on education appears in UNESCO/International Bureau of Education (1977). Up-to-date lists of the documents are given in the UNESCO Statistical Yearbook as well as in separate reports. Basic data are also published by the UNESCO regional offices in different forms for the countries included in their respective regions.

Apart from UNESCO, several other international and regional organizations publish education statistics regularly in specialized or in general statistical publications. The following are a select list by way of illustration:

- (a) At the United Nations, the Statistical Office (UNSO) produces the *Statistical Yearbook*; the Economic and Social Commission for Asia and the Pacific (ESCAP) produces the *Statistical Yearbook for Asia and the Pacific*; and the Economic Commission for Western Asia (ECWA) produces the *Statistical Abstract for the Arab World*.
- (b) The Organisation for Economic Co-operation and Development (OECD) produced *Education Statistics in OECD Countries* (1981).
- (c) The Statistical Office of the European Communities (EUROSTAT) produced *Education Statistics 1970-1975* (1981).
- (d) The Council for Mutual Economic Assistance (CMEA) produces the *Statistical Yearbook* (in Russian).

- (e) The Nordic Council and the Nordic Statistical Secretariat produces the *Yearbook of Nordic Statistics*.
- (f) The *Oficina de Educación Iberoamericana* produces *La Educación en Iberoamérica—Sistema de indicadores socioeconómicos y educativos* (separate files by country).

In some cases the above-mentioned organizations reproduce data obtained by UNESCO but in other cases the data are requested directly from the countries concerned, mainly through statistical questionnaires. Unfortunately, the data for the same country shown in the various international or regional sources are not always consistent or comparable due to differences in coverage and classifications. In this respect it should be noted that data collection has been coordinated between various organizations with a view to avoiding repeated demands for the same data to national statistical services.

2. International Standardization of Educational Statistics

To enable comparison between countries, statistics should be based on uniform concepts, definitions, classifications, and tabulations. The problem of comparability is common to all fields of statistics but it is particularly difficult in the field of education due to the wide differences in the structures of national education systems and in institutional arrangements. As an illustration, Table 1 presents a distribution for 202 countries and territories as regards various aspects of their edu-

Table 1
Distribution showing the education systems in 202 countries and territories^a

Age or number of years	Entrance age first level of education	Duration in years of		
		Compulsory education	First level education	General education at the second level
0		33		
1				
2				1
3				1
4	2		2	3
5	36	9	8	23
6	121	32	29	29
7	41	12	110	76
8	2	35	27	63
9		33	22	5
10		31	3	1
11		6	1	
12		4		
Not specified		7		

^a Source: UNESCO *Statistical Yearbook* 1981

cation systems. The wide variation existing in entrance age to first-level education and in duration of compulsory and first- and second-level education is evident from this Table.

Obviously, national education systems differ in many other respects, such as the distinction made in secondary education by cycles or by types of education (general, teacher training, vocational/technical); admission examinations; and regulations and practices concerning repetition of grades. Figure 1 shows some of these complexities as regards the flow of pupils after entering grade 1. When the statistics on enrolment do not define and quantify these different flows, overestimation of the real coverage of the education system may occur and comparisons between countries are rendered more difficult. This illustrates the need and importance of a common terminology and standard methodologies for the compilation and analysis of education statistics.

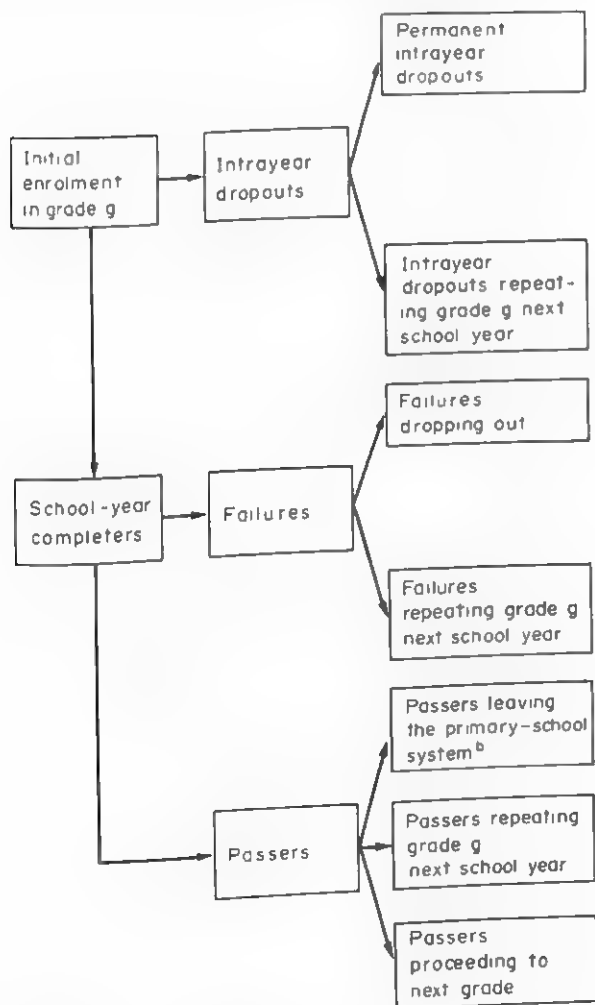


Figure 1
Flow of pupils entering grade g of primary education^a

a Source: UNESCO *Statistical Reports and Studies*, No. 24 1981b b If grade g is the last grade of a cycle, these pupils are graduates leaving primary education, who may or may not enter secondary education in the following year; otherwise they are dropouts

The problem of standardization in the field of education was first taken up in 1926 (UNESCO 1961). Much progress has been made since then. The two major international instruments developed in this field are the International Standard Classification of Education, approved by the 1975 International Conference on Education, and the Recommendation concerning the International Standardization of Educational Statistics adopted by the General Conference of UNESCO in 1958 and subsequently revised in 1978 to make it compatible with the International Standard Classification of Education (ISCED). These are briefly described below.

2.1 The International Standard Classification of Education (ISCED)

The International Standard Classification of Education (ISCED) has been designed as an instrument suitable for assembling, compiling, and presenting statistics of education both within individual countries and internationally. It is expected to facilitate international compilation and comparison of education statistics as such, and also their use in conjunction with personnel and other economic statistics.

The classification, which is essentially a dictionary of educational programmes, is designed for assembling data on current educational phenomena, such as enrolment, teaching staff, and finance as well as for statistics of the "stock" of educated people as obtained, for example, by a census of population. In this sense, it is a multipurpose system within which comparable data can be assembled on various features of education systems and processes.

As a classification of education, ISCED classifies programmes within broad fields of education according to their educational content. In addition, each programme and field is designated according to its level category.

ISCED is presented in full in the document UNESCO, COM/ST/ISCED (1976). This document contains codes and definitions for 518 programmes of education, 21 fields of study, and 8 levels of education for classifying statistics on regular, special, and adult education.

2.2 Revised Recommendation Concerning the International Standardization of Educational Statistics

This Recommendation proposes concepts, definitions, classifications, and tabulations under four sections:

- statistics of illiteracy;
- statistics of the educational attainment of the population;
- statistics of enrolment, teachers, and educational institutions;
- statistics of educational finance.

For the full text of the Revised Recommendation see UNESCO (1978b).

The adoption of international instruments for the standardization of statistics concludes a first stage of

a long process which should be continued with their practical application by all countries. In this process, the UNESCO annual statistical questionnaires provide the necessary framework for the reporting of internationally comparable data. Moreover, a number of countries have prepared specific handbooks to relate their national education classifications or national systems of education to ISCED. The international statistical standards, as appropriate, have also been incorporated in international and regional recommendations for population censuses.

It is necessary to stress, however, that despite the very significant progress that has been achieved in improving comparability of statistics on education since the early 1960s, there is still a lot of room for improvement, as suggested by the large quantity of footnotes that usually accompany each table on education in international publications. Likewise, problems of comparability multiply in areas such as public and private education, full- and part-time students, qualification of teachers, and per pupil expenditure by level. In fact, due to lack of comparability, statistical series on these topics are

seldom presented in international statistical publications, but rather covered separately in specialized studies. These data are frequently available in national statistical publications.

3. Uses of Comparative Data

Education statistics are collected for use in policy making, planning, and administration of education. These functions are primarily of a national concern. However, specific problems and educational development in general are increasingly studied and reviewed with reference to the situation in other countries or within a regional framework.

Broadly speaking, it may be said that the uses which are made of comparative data are similar to those of national data. While national data serve to evaluate the situation and establish trends and developments for the country concerned, comparative data serve similar purposes at the regional level or worldwide. UNESCO has a long tradition in organizing international and regional conferences where educational developments

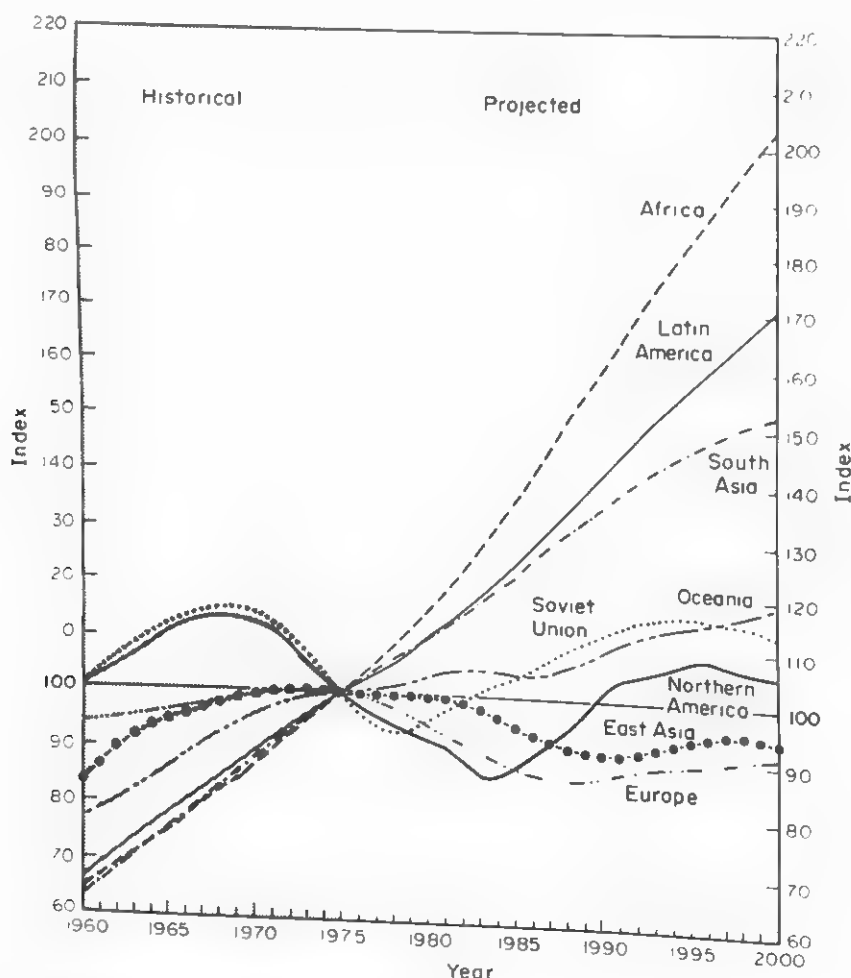


Figure 2

Population growth of 6-11 age group. Major regions. Both sexes. 1975 = 100^a

^a Source: UNESCO, CSR-E-39 1981a

in general are reviewed and specific problems, for example, illiteracy, are discussed. Regional goals are sometimes established, for example, during the early 1960s universal primary education was adopted as a regional target in Africa, Asia, Latin America, and in the Arab States. In 1979 a major project in the field of education in the Latin American and Caribbean region was launched, whose specific objectives are:

- (a) to ensure that, by 1999 at the latest, all children of school age receive schooling and are provided with a minimum of 8 to 10 years' general education;
- (b) to eradicate illiteracy before the end of the twentieth century and to develop and extend educational services for adults; and
- (c) to improve the quality and efficiency of educational systems by carrying out the necessary reforms.

UNESCO has prepared comparative statistical studies on a variety of topics, ranging from overall reviews of quantitative developments in education to specific subjects, such as illiteracy, wastage, out-of-school children, students abroad, and expenditure on education. Special mention should also be made of the worldwide enrolment projections (UNESCO CSR-E-21) and projections of illiteracy (UNESCO CSR-E-29).

Several other organizations, such as the World Bank, Organization of American States (OAS), Organisation for Economic Co-operation and Development (OECD), the European Community, and the Council of Europe, make much use of comparative statistics on education. In order to illustrate further the use of comparative data, a few examples taken from UNESCO publications will be discussed below. These examples refer mainly to comparison between regions, but it should be stressed that there are wide variations within regions too.

3.1 School-age Population in the World and the Regions, 1960–2000

Knowledge of the size, structure, and growth of the school-age population is fundamental for the educational planner. Figure 2 shows the striking differences observed in 1975 in school-age population trends between regions. The major developing regions of Africa, Latin America, and South Asia show a rapid expansionary trend of the primary-school-age group (6–11 years), whereas the size of this population in the developed regions—Northern America, Europe, and the Soviet Union—fluctuates within narrow limits. This has obvious implications for the provision of education services. Suffice it to mention that, based on population and enrolment projections, the developing countries would have to increase primary-school enrolment by 49 percent just to maintain in year 2000 the primary-enrolment ratio attained in 1980. To improve the enrolment ratio would imply an even higher enrolment increase. In fact, to achieve universal primary education by 2000 would require an enrolment increase of the

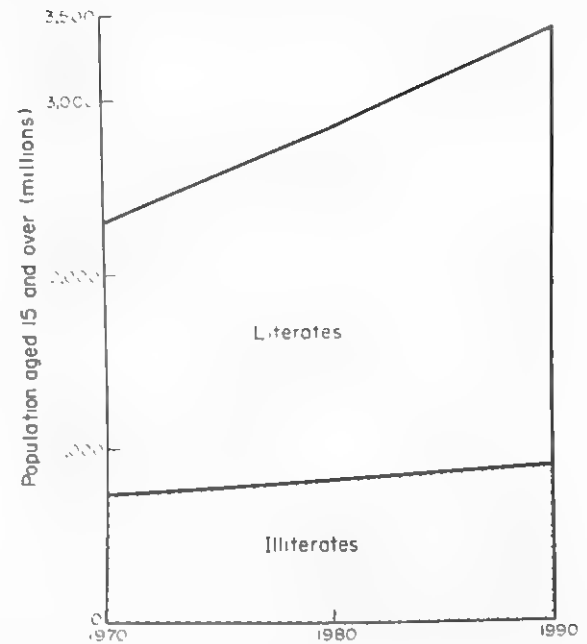


Figure 3
Proportion of literates and illiterates aged 15 and over throughout the world^a

a Source: UNESCO, CSR-E-29 1978a

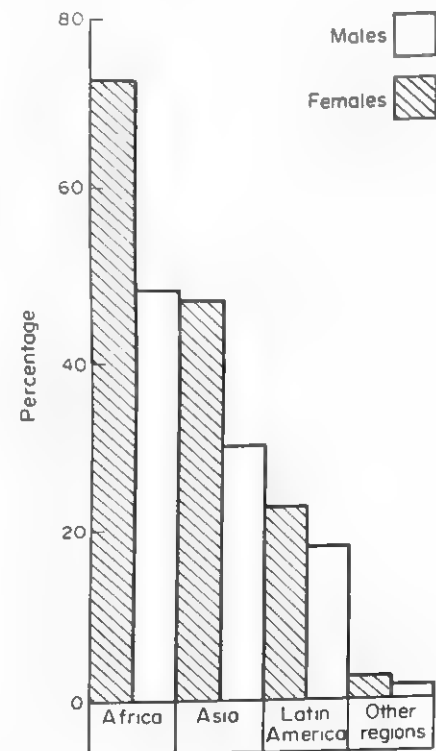


Figure 4
Female and male illiteracy rates (population aged 15 and over) in 1980 by region^a

a Source: UNESCO, CSR-E-29 1978a

order of 73 percent. In contrast, the developed regions which have already achieved universal primary education need only experience an increase in primary enrolment of 4 percent between 1980–2000. (The above calculations are based on the medium population variant.) Obviously, comparisons of educational efforts in different regions could lead to wrong conclusions if the demographic factors are not properly taken into account. For more details see UNESCO documents (CSR-E-39 and CSR-E-46).

3.2 Adult Illiteracy in the World

Figure 3 provides an illustration of the world literacy situation for the population 15 years and over. Although estimates show that the illiteracy rate has been declining: 32.4 percent in 1970; 28.9 percent in 1980; and 25.7 percent in 1990, the absolute number of adult illiterates has continued to increase: 742 million in 1970, 814 million in 1980, and 884 million in 1990. This apparent contradiction is explained by the very large increase in the population 15 years and over which took place during the same period. Figure 4 shows further detail on the distribution of the illiterate population in 1980. It shows the disparities first between regions and secondly

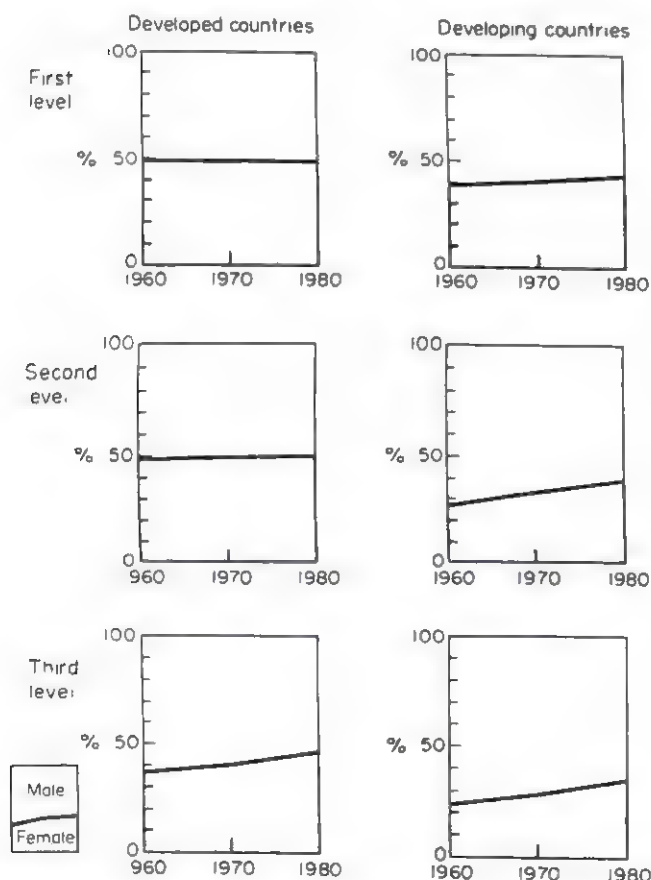


Figure 5
Male and female enrolment by level of education^a

^a Source: UNESCO, ED-82/MINEDAF/REF 2 1982

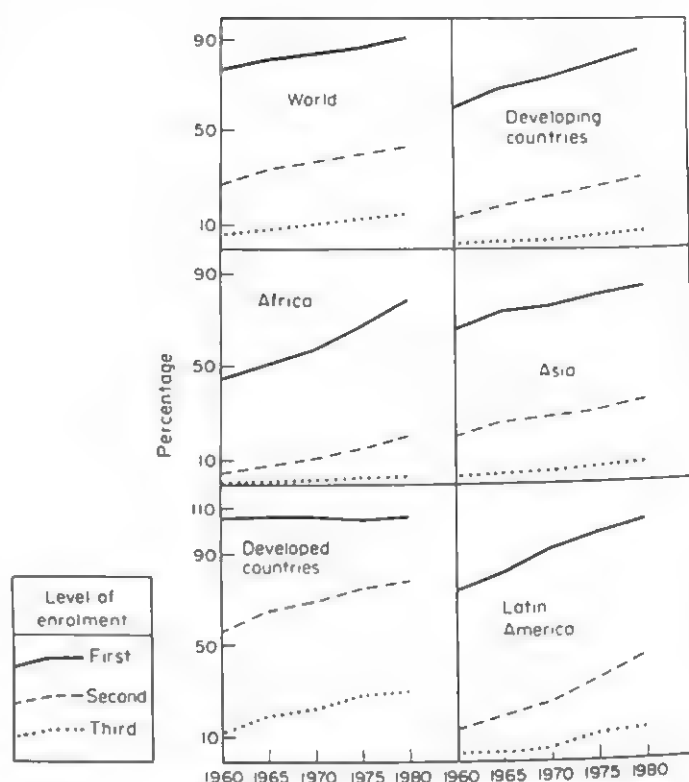


Figure 6
Adjusted gross enrolment ratios by level and by region, 1960–1980. Both sexes^a

^a Source: UNESCO, CSR-E-46 1983

between sexes. The eradication of illiteracy has been adopted as a major priority objective by the international community. The standardized estimates and projections prepared by the UNESCO Office of Statistics are very useful in evaluating progress towards this goal. The projections serve as a warning that regular primary schooling will be insufficient to substantially reduce, let alone eradicate, illiteracy during the twentieth century (see UNESCO CSR-E-29).

3.3 Distribution of Enrolment by Level of Education and by Sex, 1960–80

Disparities in enrolment between boys and girls at each level of education are common to most countries. Figure 5 shows trends in the distribution of enrolment by sex at the first, second, and third level of education, separately for developed and developing countries. For the latter countries, the enrolment of girls was markedly lower than for boys, particularly in secondary and higher education. Nevertheless, over the twenty-year period 1960–80 there was a distinct improvement. For the developed countries, the representation of girls at the first and second levels was equal to that of boys, while at the third level the disparity disappeared towards the end of the period. Another measure of disparity by sex is obtained by comparing the enrolment ratios. Studies

(UNESCO MINEDAF) show that while significant improvement has been achieved in the enrolment ratios during the period 1960–80, the disparities between sexes persist and have become even wider in many countries.

3.4 Enrolment Ratios

The enrolment ratio (ER) is a basic indicator of the coverage of the education system. It relates enrolment in a given level of education or in a given age group, to the relevant population. For example, the gross enrolment ratio for primary education relates total enrolment at that level (regardless of the age of pupils) to the population in the "official" age group for primary education. This is the enrolment ratio most commonly available for comparative studies but its interpretation is somewhat difficult since the ratio can surpass 100 percent, due to the inclusion of under- and over-aged pupils. The gross enrolment ratio can be interpreted as a measure of the "capacity" (pupils' places) of the primary education system to enrol all the children in the official age group. Figure 6 illustrates trends in "adjusted" gross enrolment ratios at each level for selec-

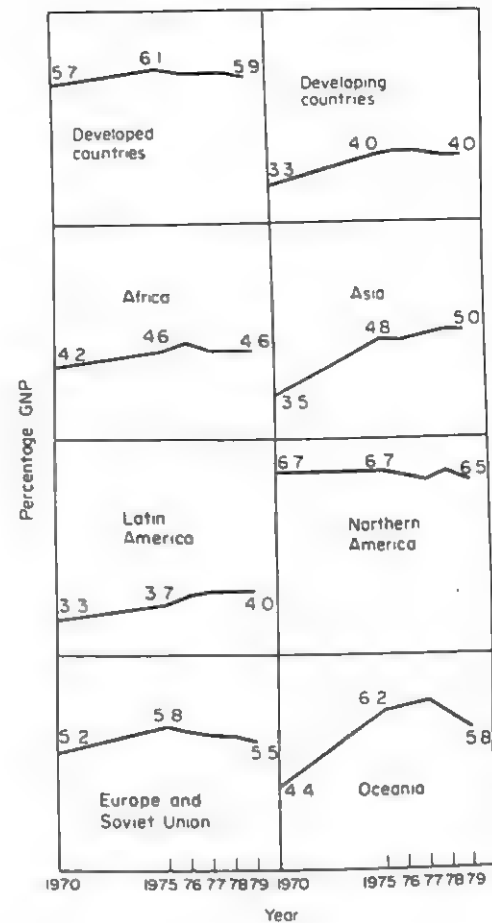


Figure 8

Public expenditure on education as a percentage of gross national product (GNP)^a

a Source: UNESCO, Office of Statistics

ted regions. The term "adjusted" indicates that the school-age populations used are the aggregates of each individual country. Figure 7 shows projected gross enrolment ratios for African countries, based on enrolment trends observed since 1960. This comparative picture reveals the large disparities in primary school "capacity" prevailing in African countries around 1980, and suggests that despite the progress which would be achieved, many of the countries in Africa would still have a relatively small primary school "capacity" by the year 2000 (UNESCO MINEDAF).

3.5 Public Expenditure on Education

Any attempt to assess expenditure on education on a comparative basis meets with great difficulties. This is due to lack of complete data, for example, data refer to public education only and sometimes only to expenditure by the ministry of education. Currency-conversion problems and price fluctuations make comparisons difficult over time. Despite such shortcomings, estimates of regional educational expenditure

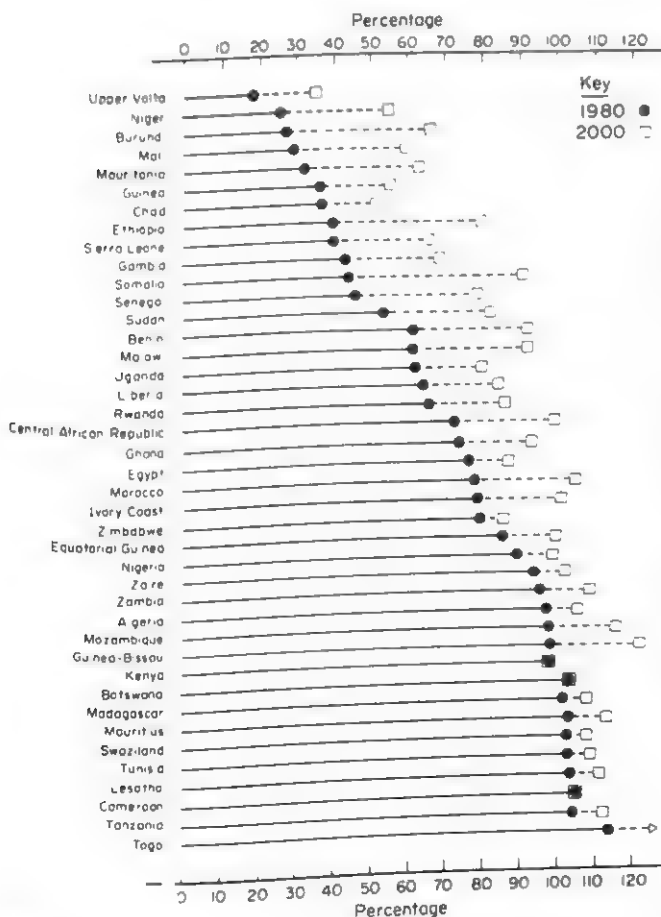


Figure 7

Projections of gross enrolment ratios for primary education in selected African countries^a

a Source: UNESCO, ED-82/MINEDAF/REF. 2 1982

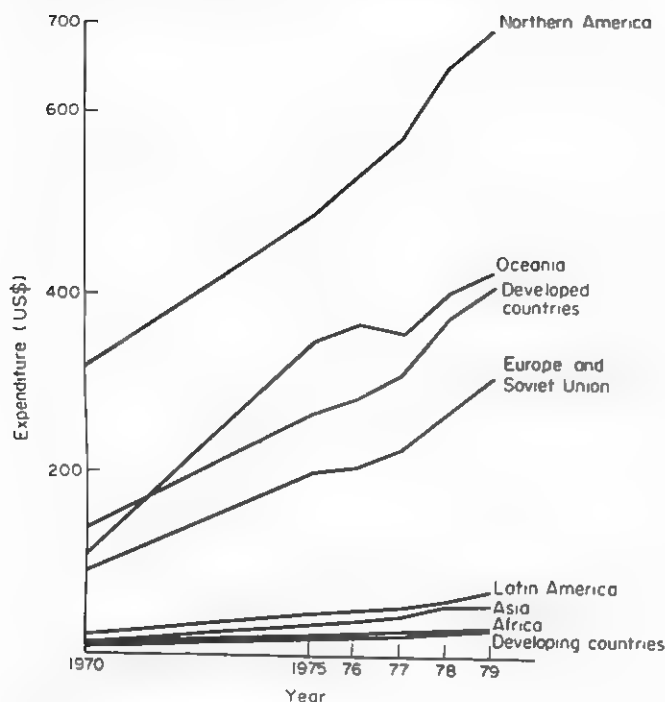


Figure 9
Public expenditure on education per inhabitant (US\$)^a

a Source: UNESCO, Office of Statistics

are regularly updated by the UNESCO Office of Statistics for the study of major trends in this area. One way to assess the importance of educational expenditure is to relate it to the gross national product (GNP). Figure 8 shows the evolution of this indicator by major regions for the period 1970 to 1979. An inspection of this graph reveals a number of interesting points. For instance, the significantly higher proportion of the GNP devoted to education by the developed countries as compared to developing countries; a certain stabilization in recent years of this percentage, which obviously has different implications for the two groups of countries.

Another way of comparing educational expenditure is to relate it to population. Public expenditure on education-per-inhabitant is shown in Figure 9. In terms of this indicator, the disparities between the developed and developing countries are not only amplified, they are also widening.

The above examples illustrate the use of data for regional comparisons and the evaluation of major educational trends worldwide. The need for greater comparability and availability of data for this purpose cannot be overstressed.

4. Reliability of Education Statistics

The reliability of education statistics is too broad an issue to be adequately explored here. At the same time, it is a crucial question for users of the data; therefore,

a discussion on education statistics cannot omit drawing attention to it. Unfortunately, very little information on the reliability of the data series presented is offered by either national or international statistical publications. Certainly, measuring reliability is not at all a simple operation. There are no standard methods for it; and sources or causes of unreliability of data are varied. It should be recognized that, for the most part, unreliability of data is a problem of statistical organization: incomplete coverage due to a defective list of schools or to nonresponse; overestimation of enrolment due to inadequate school registries or imperfections in questionnaires; double counting of teachers due to ambiguities in definitions and classifications. Although deficiencies in the basic data may be easily detected, as when abrupt changes or unreasonable values occur in certain indicators, the origin of the inconsistency is not as obvious. For example, when different sets of data are combined, such as enrolment and population data (enrolment ratios); enrolment and teachers (pupil-teacher ratios); expenditure and enrolment (expenditure per pupil), problems may arise due to lack of comparability in the two sets of data, for example, different coverage and different reference dates.

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Comparative Studies of Educational Policy

F. S. Coombs

Improvement of the educational system of any country ultimately rests upon the ability of authorities to change existing patterns of action in classrooms, schools, and supporting structures. Authorities attempt to change or maintain those patterns of action by formulating, enacting, and implementing educational policies. In this article the nature, variety, and utility of studies that compare educational policies in more than one system are examined. The logic of comparative policy research will be considered and the potential of this kind of work for informing educational policy decisions will be assessed.

1. The Nature of Comparative Research on Educational Policy

Systematic cross-national research focusing on educational policy has been a relatively recent development in comparative education. The handful of landmark studies that appeared in the 1970s rest, however, upon a lengthy tradition of rich historical treatments and case studies of single educational systems. While the center of attention has been the system, rather than the comparative examination of a policy across systems, authors of these works seldom failed to address the implications of their research for educational policy.

Influential studies in this earlier mode include: Foster's work (1962, 1963) in West Africa which emphasizes the importance of tailoring educational systems to the particular cultural needs of emerging nations; Husén's case study of the Swedish school reforms (1965, 1968); Schultze and Führ's volume on schools in the Federal Republic of Germany (1967); and Paulston's work on educational change in Sweden (1968).

Several developments have set the stage for a more direct approach to the comparative study of educational policy. First, policy research in the disciplines of political science, economics, and sociology has emerged from academically suspect status to a dynamic and eminently respectable area of inquiry. The policy process, with its complexity and contextual nature, has yielded little in the way of general principles, but the current efforts at conceptualization, model building, and generalization are reminiscent of the scholarly energy that went into the study of political and social behavior in the 1960s.

Second, within the education community there has been a general acknowledgement that education, as virtually every other policy sector, is political. Whereas earlier generations of scholars searched for what Tyack has called the "one best system," educators in many countries acknowledge the legitimacy of competing policy alternatives and the necessity of making collective choices about those alternatives through a political process.

Third, there are international networks of scholars and educational policy makers who communicate and interact with respect to policy questions to a far greater extent than was the case even in the early 1950s. The Comparative and International Education Society (CIES), the annual conferences of European ministers of education, the Organisation for Economic Co-operation and Development (OECD), UNESCO and its affiliated International Institute for Educational Planning (IIEP), and participants in the International Association for the Evaluation of Educational Achievement (IEA) studies represent some of these overlapping networks. Each of these bodies has produced a stream of data and literature.

Policy research may be distinguished from other educational research by its focus on "alterable" variables (Bloom 1980). The relationship between sex and achievement in mathematics, for example, has an independent variable that cannot be altered in the usual course of events. While such research may have implications for policy, those implications are seldom unambiguous. When the independent variable can be changed, however, as in Bereday's study of laws excluding children from school (1980), the findings are more likely to bear directly upon the desirability of a policy change. Policies are designed to control the behavior of target individuals in specified situations. They are the primary means by which authorities attempt to alter various aspects of the educational system.

2. Varieties of Comparative Policy Research

The three stages in the development of comparative education charted by Bereday (1964) differ with respect to the role of comparative education and educational policy. During the "borrowing" era, descriptive data were cataloged for the purpose of transplanting the best practices of one country to other systems. The era of "prediction" found scholars studying the achievements and mistakes of other systems in order to estimate better the likely effects of similar reforms in their own. The present era of "analysis" gives greater attention to method and the development of theory. More recently, Halls (1977) reduced the purposes of comparative education to two: (a) arriving at valid generalizations, and (b) borrowing or avoiding.

One by-product of this evolution has been the reduction in scope of many policy studies. Treatments of the performance of entire educational systems are being replaced by more incisive studies of specific reforms or policy initiatives (Heidenheimer et al. 1975, Beck 1971, Noah and Sherman 1979, Sherman 1978, 1980, Coombs 1978). A corresponding trend from single country studies to more explicit comparison of a few countries (King et al. 1974, Premfors 1980), and finally

to studies of a larger number of countries (the IEA studies, Cameron and Hofferbert 1976, Bereday 1980) is also detectable.

Methodological and ideological diversity have marked the field of comparative education policy to date. Ethnography, critical analysis, surveys, cost-benefit analysis, and policy experiments are all represented in the literature. The ideological spectrum includes thoroughgoing Marxists, scholars who argue that the dominant characteristic of any educational system is to reproduce the existing social order, reformers of several persuasions (e.g., progressives, libertarians, humanists), and defenders of the status quo.

An important distinction may be made between research that contributes to our understanding of the policy process (or the society) and research that seeks to inform policy decisions. The first category would include studies of why a certain policy is adopted in one country but not in another (Heidenheimer et al. 1975). Similarly, scholars who examine education policies as indicators of underlying structural characteristics of the social, economic, or political system are less concerned with improving policy than with understanding the system. Studies of this nature capitalize upon either cross-system or historical variation in educational policy to provide insight into the policy process or the nature of the system.

Researchers who seek to inform policy decisions also approach the task in a variety of ways. Simply describing the existing state of affairs may identify problems or highlight needs in a certain area. The OECD's use of their series of country studies to arrive at a list of educational policy priorities in the mid 1970s illustrates the major role that descriptive research can play in structuring policy makers' agendas. Dissatisfaction with existing policy is the first important step toward policy change. Other researchers may search out and propose plausible policy alternatives to discredited policies. Comparative studies have been used for this purpose at least since 1817, when Marc-Antoine Jullien de Paris advocated transplanting the best educational practices from one country to others (Bereday 1964).

The most ambitious type of policy research, however, is that which attempts to predict the consequence of a proposed change in policy. This task requires causal inferences which may range from the intuitively obvious to the obscure. One of the more valuable contributions research can make to the policy process is to systematically scan for consequences that may not have been anticipated by policy makers.

3. The Logic of Comparative Analysis

All analysis involves comparison. The distinctive feature of cross-national studies is that attributes of the system (as opposed to attributes of individuals, schools, etc., within the system) are compared. In comparative policy analysis, attempts are made to identify relationships

between system policies and various system outcomes, such as literacy rates or academic achievement.

Much policy research designed to predict the effects of policy changes can be done within a single educational system by focusing on variation in policies and outcomes at the classroom, school, local education authority, or provincial level. For example, a policy researcher might hypothesize that the policy of integrating handicapped pupils into regular classrooms will result in higher self-esteem for those pupils. In a country that leaves that policy decision to local school authorities there should be adequate variation to test the hypothesis in the one system. What, then, can cross-national research add?

First, if a relationship is established in one country, the question immediately arises as to whether it holds in others. Countless contextual differences might render a relationship in one system null in another. Comparative analysis is able to go beyond the search for covariation and to begin to examine the conditions under which a policy may lead to desired outcomes. Second, there are many cases in which the effect of a policy in a single country could never be determined, even in principle, because the policy is universally applied throughout the country. To examine the effects of such a policy it is necessary to compare the educational outcomes in that system with those of systems employing alternative policies. Postlethwaite (1967) makes essentially this point when discussing the special value of internationally comparable outcome data in cases where the practices or school structures for assessment are not well-represented within a single country, as well as in cases where the intention is to test the generality of a relationship found within a single country.

Reduced to its simplest form, the challenge in designing much empirical research is to have adequate variation on the independent variables of interest, and as little variation as possible on possibly confounding variables. The implication of that dictum for comparative policy research is that nations chosen for study should display differences with respect to the policy under study, but be as much alike as possible in other relevant respects. As confidence grows in the ability to predict the consequences of a policy change in these "similar" countries, it may then be possible to explore the conditions under which the prediction holds by introducing less similar nations (Tuene 1978).

4. The Limitations and Promise of Comparative Policy Studies

Comparative policy research is but one aspect of policy research, and policy is but one of the reasons educational systems change. Furthermore, policy makers may be unresponsive to even the best policy research if the political climate is unfavorable. To affect policy, educational research must compete with many other influences. The credibility of comparative policy

research has been limited in at least two ways in this struggle. Difficulties associated with establishing the equivalence of practices, structures, and outcomes across nations are endemic to comparative studies and particularly acute when dealing with policies. Sweden, England and Wales, a few states in the Federal Republic of Germany, and the United States have all pursued, at various times, policies designed to encourage the establishment of comprehensive secondary schools. The effects of those policies may be different, however, in part because the comprehensive schools which emerged are quite different kinds of establishments. The development of potentially powerful abstract policy concepts, such as "retentivity," "differentiation," or "specialization" as used in the IEA studies (Postlethwaite 1967) should mitigate this problem.

A second impediment to rapid development in comparative policy studies has been the still primitive state of theory in the policy sciences. The need for empirically tested theory of the "if . . . then" type is even greater in policy research than in its sister field of program evaluation. Good policy making requires general knowledge—knowledge that allows predictions to be made about what the future impact of a contemplated policy change will be, even in classrooms, schools, communities, or provinces which are not known firsthand. Such knowledge may be based on common sense, but a large number of policy issues (e.g., grade repeating, tracking, mainstreaming of handicapped children, compensatory preschool programs, and corporal punishment, to name but a few) involve assumptions that are not intuitively obvious. Policy researchers have seldom been confident enough of their findings or unequivocal enough in their recommendations to challenge conventional wisdom effectively.

Comparative policy research is still a young field, but a growing number of cross-national studies which give explicit attention to policy variables have already borne fruit. The future will witness a sharp increase in attempts to develop and share theories linking policies to educational outcomes. Cross-national comparisons provide a rich experimental base for this endeavor.

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Comparative Studies in the Economics of Education

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In 1965 Friedrich Edding drew attention to the importance of multidisciplinary study linking comparative education to economics. Economists, Edding said, could

help educators to understand and compare educational systems by applying their knowledge to the particular kind of production and distribution called education

(Edding 1965 p. 454). Nevertheless, 12 years later, when Hansen explored the extent to which the economics of education had taken on a comparative dimension, he argued that the two fields had rarely "been brought together in a congenial and productive way, either within educational institutions or in substantial research projects" (Hansen 1977 p. 230). Hansen found significant comparative research on only three topics in the economics of education: the education-earnings relationship, returns to human capital, and the education-economic growth relationship. Other topics, such as estimates of the effects of schooling on earnings and of educational production functions, manpower planning, educational finance, and equality of educational opportunities, had not been compared across countries at the time.

Since 1977 comparative research in the economics of education has expanded at an unprecedented rate, covering most topics in the field.

1. The Contribution of Education to Economic Growth

The concept of education as a form of investment in human capital dates back to the eighteenth and nineteenth centuries (Adam Smith, Alfred Marshall, and John Stuart Mill), but not until the beginning of the 1960s were attempts made to measure the contribution of education to economic growth. Growth accounting and cross-national comparisons were introduced in an effort to understand the relationship between education and economic growth.

Based on the concept of an aggregate production function (linking output to the inputs of capital and labor), Denison (1962) calculated that almost 23 percent of the rate of growth of output in the United States during the period from 1930 to 1960 was due to increased education of the labor force. When this analysis was replicated for the United States and Western Europe during the period from 1950 to 1962, Denison (1967) concluded that the diffusion of education accounted for as much as 15 percent of growth in output in the United States, 2 percent in the Federal Republic of Germany, 12 percent in the United Kingdom, 14 percent in Belgium, 4 percent in Denmark, 6 percent in France, 5 percent in the Netherlands, 7 percent in Norway, and 7 percent in Italy.

The same approach was applied to developing countries in a number of studies assembled by Nadiri (1972) and, more recently, by Bowman (1980). From her review of ten studies, Bowman concluded that "in percentages of growth explained, for most countries education turned out to be a minor factor," (Bowman 1980 p. 55). She added, however, that "there are some limitations to these accounting procedures," which tend to underestimate the contribution of education to economic growth [i.e., the maintenance component (Selowsky 1969), and the unaccounted secondary or

spillover effects of improvements in the quality of the labor force (Psacharopoulos 1972)].

A second approach, using rates of return to education, relates the cost of investment in education to the increase in income (productivity) realized by nations and individuals. This approach was initiated in the United States by Schultz (1963), and it was followed by several studies in developed and developing countries. The most comprehensive comparisons have been made by Psacharopoulos (1973, 1980, 1985). In his first study, Psacharopoulos compared the social and private rates of return to education in 32 developed and developing countries, and drew the following conclusions:

- (a) rates of return to education are generally higher in less developed countries;
- (b) primary education tends to yield the highest return;
- (c) returns to investment in human capital are well above returns to physical capital in less developed countries, while the two types of return are of almost equal magnitude in advanced countries;
- (d) per capita income differences can be better explained by differences in the endowment of human rather than physical capital;
- (e) investment in education contributes substantially to the rate of growth of output in most countries, particularly in the less developed group; and
- (f) higher education is very expensive in relation to other levels, particularly in less developed countries.

Two updated comparisons (Psacharopoulos 1980, 1985) confirmed and reinforced these conclusions.

The first cross-national comparison of educational attainments with per capita income was undertaken by Bowman and Anderson (1963). They found that a threshold effect of about 40 percent adult literacy was a necessary, but not a sufficient condition for attainment (in 1950) of per capita income above US\$200. The results also suggested that although primary-school enrollments in the 1930s had had substantial explanatory power for income 20 years later, in 1955 the reverse enrollment effects of income in the 1930s on primary enrollment rates in the early 1950s) was stronger. These results led to the controversy about the direction of the relationship between education and economic growth. Following this line of research, Peaslee (1967) studied the correlations between primary-school enrollments and per capita income since 1850. He concluded that the 35 richest countries in 1967 had all achieved primary-school enrollments of over 10 percent before their "takeoffs," and that no country had ever achieved significant economic growth within the last 100 years without first reaching the 10 percent level.

A second type of cross-national comparison incorporates basic needs or socioeconomic indicators with

other variables in the determination of per capita income. Hicks (1980) concentrated on life expectancy at birth as a basic need variable. He found that the 12 developing countries with the fastest growth rates had well above average levels of literacy and life expectancy. Wheeler (1980) devised a simultaneous model that took into account the interaction, over time, between growth and human resources (nutrition, adult literacy rates, and life expectancy), and tried to separate cause from effect. He concluded that, on average, an increase in the literacy rate from 20 to 30 percent causes gross domestic product (GDP) to increase by 8 to 16 percent.

It was during the late 1970s that researchers became more concerned with qualitative aspects of economic development (Carnoy 1977, 1982, Levin 1981). Emphasis was placed on the distribution of educational services, and on equality of access to education (Husén 1980). Since then, priority has been given to equity criteria, favoring expansion of primary schooling above any other level of education (Colclough 1980, Berry 1980).

2. Analysis of Demand for Manpower

The manpower requirements approach is based on the assumption that shortages of specific types of trained personnel can limit economic growth. Manpower forecasters have limited faith in the efficacy of demand and supply forces to bring a labor market into equilibrium. They argue that lags in labor markets and imperfections in adjustment processes can be overcome by manpower policies designed to improve information channels and to shorten the time required for skill preparation. This approach makes two strong assumptions: (a) input coefficients are fixed, and (b) there is a rigid connection between education and occupation (Blaug 1970). The most significant factors that have contributed to the proliferation of manpower forecasts are the discovery that the quality of the labor force is an independent factor contributing to economic growth, the spread of economic planning in general, and the creation of newly independent states whose governments wish rapidly to replace expatriates by qualified nationals (Debeauvais and Psacharopoulos 1985). A recent analysis of educational plans from 16 developing countries throughout Africa, Asia, and Latin America showed that the dominant rationale for spending public money on education since the mid-1960s has been the provision of skilled manpower for development (Lewin et al. 1982).

Evaluations of manpower forecasts have been conducted since the mid-1960s. The general conclusion is that this approach has not been successful: most plans overestimated the growth of demand for educated manpower, and few have had an impact on actual educational policy. The first of these evaluations, headed by Hollister, was conducted by the Organisation for Economic Co-operation and Development (OECD) and examined plans from six countries: Spain, Portugal,

Italy, Greece, Yugoslavia, and Turkey. Hollister found that input coefficients were extremely variable, thus indicating substantial substitution possibilities (Hollister 1966). Similarly, Ahamad and Blaug (1973) concluded that errors in the plans were mainly attributable to the fixed coefficient model and to erroneous assumptions about labor productivity growth. After an examination of 30 manpower studies in 20 African countries, Jolly and Colclough (1972) reported that a combination of erroneous elasticity assumptions and unexpectedly poor economic growth resulted in inaccurate predictions of demand for educated labor by a factor in excess of 100 percent. Finally, the education-occupation relationship has been considered one of the weakest links in the manpower requirements estimation procedure (Organisation for Economic Co-operation and Development 1967, 1970, Hollister 1966, Ahamad and Blaug 1973).

The picture is not very different for nonmarket economies. In a recent study of education, employment, and development in socialist societies, Noah argues that even though socialist countries have made special efforts to link education and training to carefully calculated manpower needs, the results of these exercises, in terms of the most efficient use of labor, are not very encouraging. The resources allocated to education are often wasted "as workers find that the economic system is not able to make efficient use of their knowledge and skills" (Noah 1986).

In spite of these negative evaluations, the manpower forecasting methodology still dominates government manpower planning and development assistance agencies (Psacharopoulos and Hinchliffe 1983). Given current concerns for social equity, the internal efficiency of the education system, and the quality of educational output, Psacharopoulos and Hinchliffe advocate the replacement of this dominant technique by a well-structured planning process. Similarly, Dougherty (1983) draws attention to the need for manpower development units, the adoption of a continuous-planning process, and the use of cost-effectiveness as the major economic principle for defining tasks within the planning process (Dougherty 1983 p. 53).

3. Cost-Benefit Analysis

Cost-benefit analysis, together with manpower forecasting, has been the leading approach to educational planning since the 1960s. This approach is framed in terms of the relationship between the cost of education and the resulting increased productivity of graduates in the labor market. If the productivity of educated workers is higher than that of the uneducated, this relationship will be reflected in increased output and in higher earnings (Woodhall 1970). Cost-benefit analysis begins with a cross-tabulation of the labor force by age, earnings, and education. From this tabulation, earnings profiles are derived. The internal rate of return to investment in education is the rate of discount that equates the present value of the extra earnings attribu-

table to a certain amount of education with the present value of the costs incurred in order to obtain that extra education (Blaug 1970 p. 169). After an analysis of earnings profiles in developed and developing countries, Psacharopoulos and Woodhall (1985) cited four typical characteristics:

- (a) earnings are highly correlated with education;
- (b) earnings rise with age to a single peak and then flatten or fall until retirement age;
- (c) profiles are steeper for higher educated individuals than for those with less education;
- (d) the higher the level of education, the later the age at which earnings reach their peak.

The first collection of studies on the rate of return to education appeared in the *Journal of Human Resources* and covered only six countries: Mexico, Venezuela, Chile, Colombia, the United States, and the United Kingdom (Carnoy 1967, Hanoch 1967, Blaug 1967). In 1970 Hansen produced another review covering 14 countries, and four years later Psacharopoulos (1973) published his international comparison study which included 32 countries; there were two follow-up versions, covering a total of 61 nations (Psacharopoulos 1980, 1985). Comparative treatment of rate-of-return analyses has answered several essential questions in the economics of education: what is the rate of return to human capital? How does the profitability of investment in education compare to that of investment in physical capital? What priority should be given to primary education versus university education? Should developing countries invest in general or vocational education? Should governments shift the public costs of higher education to individuals and families? By how much does the yield on human capital investment decline following educational expansion? (Psacharopoulos 1985)

Patterns in the rates of return found by Psacharopoulos, and mentioned above, have several policy implications: there is underinvestment at all levels of education, especially in Africa; primary education remains the number one priority for investment; the degree of public subsidization of higher education is such that there is considerable margin for reducing subsidy levels; reducing subsidies to higher education and reallocating them to primary education is an efficient and equitable policy; expanding the provision of school places to cover women is also efficient and socially equitable; within the secondary or university level, general curricula offer as good, if not better, investment opportunities as the more vocational; fears that further expansion of education would lead to unemployed graduates or would lower social rates of return are unfounded (Psacharopoulos 1985).

Even though rate-of-return analysis has been widely adopted, "an omnibus of objections" has been directed at this approach (Blaug 1976). First, many economists

argue that earnings differentials cannot be used as a measure of the pure benefit of education since they reflect differences in natural ability, motivation, social background, and sex, as well as differences in education. Based on a study of earnings and education in Organisation for Economic Co-operation and Development (OECD) countries, Psacharopoulos (1975) concluded that while ability and home background are important, it is only in conjunction with education that these factors have a strong influence on earnings. Hence the question is not whether education has an effect on earnings, but how much of the observed differential is due to education. Studies in the United States (Becker 1975) have shown that roughly two-thirds of the differential are due to education. For developing countries, earnings have been adjusted for socioeconomic status and other variables. After these adjustments have been made, the rates of return to primary and secondary education decline, but the rates of return to higher education remain unaffected (Thias and Carnoy 1972).

Second, the assumption that earnings differentials between more and less educated individuals reflect differences in their marginal productivity has been called the "Achilles' heel" of rate-of-return analysis (Blaug 1970). Recent research linking education and farmers' productivity may be interpreted as corroborating the human capital argument that earnings differentials prove a good proxy measure of the benefits of education. Lockheed et al. (1980) surveyed the findings of 18 studies conducted in low-income countries and found that farm productivity increases, on average, by 7.4 percent as a result of farmers' completing four additional years of education rather than one. Similarly, research conducted in Nepal (Jamison and Moock 1984) suggests that education has an effect independent of family background. Among the cognitive outcomes of education, numeracy was found to be an important intervening variable between farmers' school attainment and their technical efficiency. Results of the effect of education on the physical productivity of urban workers in the modern and traditional sectors are inconclusive (Berry 1980, Hallak and Caillods 1981).

Third, it has been argued that education acts primarily as a screening device for employers, providing individuals with diplomas that permit them to get a well-paid job, but offering little social benefit (Arrow 1973). Using United States census data, Layard and Psacharopoulos (1974) rejected the hypotheses maintained by supporters of the screening hypothesis and concluded that the question is not whether education explains earnings, but why. They argue that education not only provides individuals with skills directly related to a job, but also with attitudes, motivation, and values, all of which help to determine worker productivity. Hence the productivity and screening functions of education should not be presented as mutually exclusive, but rather as working together to produce economic benefits (Psacharopoulos and Woodhall 1985).

Finally, rates of return may fail to reflect benefits

accruing to society but not captured by the individual. Examples cited in the literature include, among others, the indirect effect of education on fertility and health (Cochrane 1979, Cochrane et al. 1980), and the effect of a mother's education on her child's cognitive development (Levine 1980).

Cost-benefit analysis and manpower forecasting present different types of assumptions reflecting "two views of the state of the world." Neither of the two positions presents "the real world," thus leading some researchers to argue that neither of them should be used in isolation. What is needed, they argue, is "the adoption of a wide range of techniques and analysis to replace a single, internally consistent approach . . ." which "through administrative procedures and the formalization of tasks . . . can comprise a consistent planning process" (Psacharopoulos and Hinchliffe 1983 p. 19).

4. The Financing of Education

The 1960s were characterized by a drive to increase educational expenditures and provide education to all citizens worldwide. Educational investment, it was argued, would lead to higher rates of economic growth through enhanced labor productivity. During the 1970s, financial constraints on governments and pressures to expand education (arising from rapid population growth, increasing private demand for education, and demands for improved educational quality) gave researchers and policy makers an incentive to draw attention to new possibilities of educational finance.

During the 1960s and 1970s most of the expansion in education was financed by increased public expenditures on education. From 1960 to 1977, the percentage of world gross national product (GNP) allocated to education rose by 60 percent. While the rate of increase in developing countries was higher than in developed countries, developed countries still devoted a higher share of GNP to education (Schiefelbein 1984 Table 1). There are wide differences in the distribution of expenditures and in relative costs by level of education among countries. Developing countries allocate a somewhat higher share of GNP to the primary level and a lower share to the secondary level (Schiefelbein 1984 Table 3). According to World Bank figures for 1976 (World Bank 1980a), in industrialized countries public expenditures per student year in higher education averaged about twice the expenditures per pupil at the primary level, whereas in sub-Saharan Africa, for example, the corresponding ratio was 100 to 1.

Based on cross-national studies, researchers have proposed several mechanisms to diminish the financial burden of education for governments: improving the balance between private and public education (Tan 1985); increasing the use of cost recovery programs such as user charges, student loans, and community involvement (Psacharopoulos 1977, Jallade 1978, Woodhall 1983, Brodersohn and Sanjurjo 1978a).

A recent study comparing the extent of participation in private education between developed and developing countries has drawn attention to the stagnation in public spending for education, and the need to increase the share of private participation in total spending in the education sector (Tan 1985). The study showed that the percentage of enrollments in private schools has been declining in most developing countries. According to Tan, this decline implies that while overall enrollments since the 1960s have expanded, private enrollments have at best expanded at a slower rate, and may even have declined in absolute terms. The author adds, however, that gains in private enrollments in some countries suggest that when the supply of public education is inelastic, or when it is of inferior quality, households may be willing to pay for private education. Furthermore, the evidence of a "sluggish" responsiveness of private expenditures may reflect the effect of unchanged user charges in the sector, rather than an unwillingness of households to spend on education as gross domestic product (GDP) increases.

Cost recovery programs, such as user charges, have gained importance in developing countries. Thobani (1984) argues that given present government financial constraints, the only way to expand educational services is to raise tuition fees. If the price is not raised, Thobani adds, the government must either ration the service in some way (which will be a *de facto* price selection) or let the quality deteriorate. From an equity point of view, both outcomes are likely to hurt the poor. Thobani derives a simple efficiency rule: whenever there is an excess demand for a social service, raise its price. Even though he agrees that user charges may discourage some students at the primary level, he argues that those remaining will benefit from higher quality schooling. At the secondary and university levels, he maintains, financial mechanisms should be devised (scholarships and loans) in order to help the very poor.

A second cost recovery program that has been used to raise more funds for the education sector is community participation. *Ex post* evaluation of projects developed in Trinidad and Tobago, the Dominican Republic, Panama, Honduras, and Cuba showed that between 25 and 50 percent of school maintenance and operating costs can be financed with money raised through the sale of goods produced in the schools; that between 15 and 30 percent of maintenance and recurrent costs can be financed with community inputs; and that between 15 and 30 percent of capital expenditures can be financed with community inputs (Brodersohn and Sanjurjo 1978 p. 3).

Concern over government subsidization of education, however, has mainly been concentrated on post-secondary education (Woodhall 1983, Jallade 1978, Psacharopoulos 1977, Rogers 1971). Among the most widely suggested strategies to improve equity in the financing of higher education is the use of student loans. These loan schemes are designed to fulfill a number of objectives: to increase the supply of trained personnel,

to widen access to higher education by removing financial barriers for poor students, and to shift the balance between public and private financing. Contrary to some critics (Jallade 1978), evaluations of educational loan fund programs in Latin America show that they are widely used by lower income students (Woodhall 1983). Researchers argue that it is important that governments accompany student loans with increased tuition fees (so as to increase the relative share of the private sector) and with attempts to reduce costs (Woodhall 1983, Psacharopoulos and Woodhall 1985).

5. Internal Efficiency and Educational Quality

Internal efficiency of education is concerned with the relationship between inputs (teachers, educational materials, curricula) and outputs (pupil scores on achievement tests, number of school leavers) within the education system. The issue of internal efficiency has two dimensions: (a) quantitative, concerned with the flow of students through the system with minimum waste, dropouts, and repetition rates; (b) qualitative, concerned with the acquisition of skills, knowledge, and attitudes, to be measured either by means of examination scores, or by specially administered tests of noncognitive and cognitive achievement (World Bank 1980b). There are two related techniques used to measure internal efficiency of education: input-output analysis, which determines the magnitude of each input's effect on output; and cost-effectiveness analysis, which compares alternative ways of achieving a level of output and identifies the lowest cost choice.

According to UNESCO (1977), repeaters constitute about 15 percent of total enrollment in primary education in Latin America, 15 percent in Africa, and 18 percent in South Asia. Schiefelbein's (1975) analysis of repetition rates in seven Latin American countries has provided further information about this problem: he estimates that about 2.5 million seven-year-old children are repeating first grade in the region, and that the true amount of money devoted to repeating students could be as high as US\$300 million for the first grade alone. He emphasizes the importance of using alternative methods to reduce repetition such as promotion by age, remedial courses, programmed instruction, ungraded classrooms, and educational television. Furthermore, he stresses the need for teacher training in evaluation for diagnostic instead of screening purposes.

Significant advances have been made in studying the internal efficiency of schools. Input-output analyses are now available for at least 20 developing countries. The main objective of this line of research is to determine the factors that influence educational achievement. For that purpose, student learning is disaggregated into two separate types of determinants: factors outside the school's control (pupils' social status, sex, neighborhood); and factors within the school's control (curricula, quality of teacher training, educational materials, and

so forth). Studies from developed and developing countries show important differences in results (Heyneman 1980, 1984).

In developing countries, the effect of social background appears to be significantly less important than in developed countries. Education and occupation of a pupil's parents accounts for 75, 65, and 50 percent of the explained variation in student learning in Austria, the United States, and Belgium respectively. This effect is less significant in developing countries: the two factors account for 45, 33, 20, and 12 percent of the explained variation in student learning in Mexico, Egypt, Brazil, and India respectively (Heyneman and Loxley 1983a).

The proportion of explained variation in student learning accounted for by the quality of teachers and physical facilities differs substantially across countries, but is significantly higher in developing ones: 88 percent of the explained variance in India, 80 in Brazil, 68 in Egypt, 25 in Austria, 35 in the United States, and 27 percent in Sweden (Heyneman 1984). The independent effect of teacher training and textbook availability has been analyzed as well. Heyneman et al. (1981) analyzed data on pupil achievement and access to reading materials in schools in ten developing countries: Ghana, Thailand, Uganda, India, Iran, Chile, El Salvador, Brazil, Ecuador, and Malaysia. They found a positive association between textbook possession and academic achievement in most cases (except Iran and Ecuador), but the results were not conclusive. For Chile, Thailand, and India the results suggest that textbook possession has its strongest effect upon academic achievement among children of lower socioeconomic status. Husén et al. (1978) assessed the available research in developing countries that investigates teacher training variables and student achievement. The assessment of the 32 studies within the context of 16 teacher variables concluded that trained teachers do make a difference in student achievement in developing countries. The authors draw attention to the possibility of a ceiling, beyond which additional teacher preparation would prove unimportant in raising performance levels in developing countries. This possibility becomes an essential factor in terms of cost-effectiveness, since salaries are usually related to the teacher's level of education and experience. On the other hand, research on textbook distribution in the Philippines (Heyneman et al. 1984) showed that while there was no further improvement in pupils' achievement when a 1:1, rather than a 1:2, textbook-pupil ratio was achieved, providing each student with a book would have doubled the cost of the project.

Cost-effectiveness analysis has proved most useful when comparing and choosing among traditional methods and new educational media. Leslie and Jamison (1980) explored the use of radio and television in classrooms in Mexico, the Dominican Republic, and Nicaragua. They found that educational television worked no better than radio, but that its implementation was more expensive. On the other hand, the radio approach outperformed traditional instructional prac-

tice (in terms of reducing dropouts and repetition rates), and could reduce costs and improve access to secondary and higher education. Similar results have been found by UNESCO (1982) (see also McAnany et al. 1984, Mappa 1984).

6. Educational Expansion and Social Equality

The issue of educational equality is a complex one, to which two complementary approaches may be taken. The more classical approach addresses the questions of who receives how much education, how students from different groups perform in school, and how they perform in the labor market. The second approach concentrates on questions of who pays for and who benefits from education subsidies (Mingat and Tan 1985).

One of the most comprehensive studies covering both approaches was undertaken by Fields (1980). Evidence from developing countries led him to conclude that educational opportunities differ among groups in less developed nations: the probability of a school-age male being enrolled is about 40 percent higher than that of a school-age female, with the differences in educational opportunities becoming more pronounced with age (see Smock 1982); some ethnic and religious groups have less access to education; urban children have many more opportunities to attend school than rural children (see Gowda Deve 1982, Carron and Chau 1980); and the higher the status of parents the higher the enrollment figures. Nevertheless, according to Fields, participation in education appears to be more equally distributed than income.

Similarly, using the more classical approach to educational equality, Farrell (1982) distinguished between equality of access, equality of survival, equality of output, and equality of outcome. From his review of comparative data from developing countries, he concluded that equality of access is rarely approximated in these nations, and that the quality of education is a significant factor in determining the last three facets of educational equality. Based on a longitudinal study of educational equality. Based on a longitudinal study of a cohort of Chilean students, Schiefelbein and Farrell (1984) examined the role of education as a determinant of labor market entrance. Among the main findings was that educational quality variables are much more powerful predictors of occupational attainment than either educational attainment or educational achievement. Heyneman (1983) has also emphasized the importance of quality of schools as a critical factor in school achievement. From a study of the distribution of primary-school quality within high- and low-income countries, Heyneman and Loxley (1983b) concluded that school quality is not more unevenly distributed in low-income countries. Among these nations, "many have managed the distribution of school resources in a fashion that is every bit as equal as countries with higher levels of income" (Heyneman and Loxley 1983b pp. 117-18).

Relevant results related to the association between the distribution and level of education and the inequality of income have been derived since the mid-1960s. Fields (1980) reviewed findings from cross-national studies (Adelman and Morris 1973, Chenery and Syrquin 1975, Ahluwalia 1974, 1976a, 1976b), and concluded that developing countries with higher levels of education (measured in terms of school enrollments, literacy rates, and educational attainment) exhibit less income inequality. With respect to the dispersion of education, the studies reported that greater inequality of educational attainment is associated with greater income inequality (Fields 1980 p. 283).

Taking a rather pessimistic position towards the role of education as an income equalizer, Carnoy (1978) suggested that educational policy can only contribute to a more equal distribution of earnings when it is carried out in conjunction with government income policies that affect the reward to different levels of schooling, occupations, economic activities, and regions of the country (Carnoy 1978 p. 18). Blaug (1981) has argued that this pessimism is at best a three-quarters-truth and at worst a half-truth. According to Blaug, it is possible to equalize the distribution of income by implementing specific policies designed to alter either the pattern of access to education or the pattern of financing the education of those who do gain entry (Blaug 1981 p. 80).

A few comparisons between distribution of education and inequality of income within countries have been attempted. From a study of education subsidization in Colombia and Brazil, Jallade (1974, 1977, 1979) derived the following conclusions: there is no reason that education per se should be an equalizing force in society; government participation in the provision of education cannot bring equity to unequal societies simply through subsidies; in order to promote long-term equity, returns to education should be taxed progressively as the incomes of educated individuals rise; and net public subsidies accruing to different socioeconomic groups should be inversely related to income. According to Jallade, subsidies to primary education benefit the poor, while subsidies to secondary and higher education tend to benefit middle-income groups (Jallade 1979).

Recent research emphasizes the importance of a more comprehensive approach to the education equality issue. Mingat and Tan (1985) analyzed the effect of a shift of public costs of higher education to individuals, assuming that the resources thus freed would be used to finance expansion at lower levels of education. These data showed that such a shift could lead to large improvements in the equality of distribution of resources within the education system. Mingat and Tan concluded that assessment of educational equality in developing countries would be more comprehensive if it took into account not only equality of access to a given level of education, but also the distribution of resources within the education system as a whole (Mingat and Tan 1985 pp. 307-08).

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Area Studies in Comparative Education

P. Foster

First used in the context of military intelligence activities, the term "area studies" is now employed to describe academic programs of study focusing upon particular nation-states (e.g., Iranian or Soviet studies) or clusters of states characterized by a contiguous geographic location and usually exhibiting common characteristics in terms of social structure, culture, or linguistic and historical traditions (e.g., Latin America, South Asian or Sub-Saharan African studies). The term has programmatic, not disciplinary, significance insofar as area studies usually include research and teaching in a range of disciplines in the humanities and social sciences. The term is used most frequently in the United States where the passage of the National Defense Education Act in 1958 led to a major expansion in such programs particularly those focusing upon the Soviet Union, Eastern Europe, and the less developed countries.

Although comparative education as a field of enquiry developed antecedently and independently of most area study programs, growth in the latter has led to an expansion of the field in general since investigation of the educational systems of specific geographical or cultural regions is usually an elective element in such programs. Moreover, intellectual and methodological advances in comparative education have led to the virtual demise of the "universal expert" and most practitioners in the field tend, in fact, to be specialists on educational development in single countries or limited regions. It has been suggested for heuristic purposes that it would be advisable to restrict the term "comparative education" to explicitly cross-national investigations. This suggestion has been generally unacceptable for two reasons. First, since all social science-type investigations involve comparison it would be unwise to restrict the use of the term to one arbitrary level of analysis. Second, most large-scale cross-national comparisons in comparative education have been of limited merit and, in fact, have involved "parallel descriptions" rather than analytic comparison. This has been particularly true in the quantitative field, where problems concerning the comparability of data and the difficulties involved in the secondary analysis of existing materials have proved

formidable. Indeed, the six-subject survey of education in 21 countries conducted by the International Association for the Evaluation of Educational Achievement (IEA) still constitutes one of the very few successful attempts at cross-national investigation in terms of research design, generation of primary data, and analytic conclusions.

Thus area study-type investigations conducted in one country or on a very limited culture area basis have been more numerous and usually more productive. It is, however, conceptually useful to distinguish two types of study within this general rubric. The first type undertakes an in-depth examination of educational development, usually in a particular nation-state and attempts to describe those factors believed significant in influencing such development. The educational system tends to be perceived as a configuration that can only be explained in terms of the unique historical and cultural traditions in which it is imbedded. Such an approach tends to be primarily historical in its emphasis and is exemplified in the work of the earlier generation of scholars such as Sadler, Kandel, and Hans.

In a formal sense, the argument that national educational systems can only be understood in terms of the unique configuration of events that produced them is unassailable. However, the weakness of much early "single nation" research (partly as a result of its lack of quantitative emphasis) was that it ignored considerable variations in the provision and nature of education within nation-states. For example, even within highly centralized national systems the diffusion of education was markedly uneven at earlier stages of development. A later generation of scholars has tended to stress these internal disparities and has tried to account for them in terms of, for example, corresponding differences in rates of economic growth or variations in local social structure or culture. Craig (1981) has provided a useful summary of work in the former tradition, while Kay (1979) provides an elegant example of the latter emphasis in the Kenyan context. Thus, comparison using the method of concomitant variations can be effectively undertaken in single nation studies. Moreover, in the case of many less developed countries the nation-state

is not the most suitable unit for investigation but rather the internal subregions themselves.

A second type of single nation or area study may be distinguished insofar as it does not attempt to describe educational development in toto but tends to concentrate upon one of the dimensions or functions of formal education: for example, schooling and social stratification or education and economic development. Although such studies may use historical materials, the analytic categories and methods they employ are derived from the social sciences. Hence this type of investigation may be legitimately termed a "case study" since its purpose is to examine single country instances of more general social processes believed to be occurring in other nation states or societies. The cross-national implications of this type of research may be explicit or implicit. For example, research on education and social selection in Ghana (Foster 1963), provided a conceptual model for a type of analysis that could be employed in other sub-Saharan African nations and also became the basis for an explicit comparison with the Ivory Coast: a state characterized by substantial similarities to Ghana, but which had inherited a substantially French system of formal education (Clignet and Foster 1964). Likewise, the analytic categories used to examine the relation between education and politics in Nigeria (Abernethy 1969) are readily applicable to other less

developed countries and could become the basis for explicit cross-national comparison.

It would seem likely that the future development of research in comparative education will be of the regional or area variety often using a case study approach since the costs and methodological difficulties attending more systematic, large-scale cross-national studies have proved so formidable.

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Documentation in Comparative Education

M. Debeauvais

This article is an introduction to the main specialized sources of information on comparative education. A distinction will be made between international comparisons on a world scale and comparisons dealing with regions or groups of countries. National sources are also included. A further distinction will be made between data on quantitative comparisons between educational systems and comparisons between qualitative features, such as educational policies, content and curriculum, teaching methods, teachers and pupils, and so on.

Comparative education covers a vast field which does not correspond to any strict normative definition. Studies in comparative education may deal with the world as a whole, a group of countries, or even a single foreign country. Comparative studies may also deal with issues as diverse as quantitative aspects of different educational systems, structures and organization, education outside the school sector, educational aims and policies, teaching methods, the curriculum, people involved in education (particularly pupils and teachers), achievement, historical aspects, and trends in teaching methods.

An exhaustive list of sources of documentation on such varied subjects would be endless and would require constant updating. Every specialist in comparative education has to establish his or her own information

system, depending upon specific interests and the country under study. The data provided here is therefore designed for readers who are looking for information on education in foreign countries rather than for specialist researchers.

1. Documentation on World Education

International organizations provide the best sources of documentation for international comparisons between various aspects of education. The data they provide is readily accessible and, despite its limitations, comparable. Amongst their other responsibilities, major international organizations, especially those belonging to the "United Nations family", are required to collect data relevant to their field of activity by carrying out surveys of member states, to make it available to the public, and usually to harmonize concepts so as to improve the comparability of the data.

The United Nations (UN), its specialized institutions, and the numerous bodies associated with the United Nations family publish such a quantity and variety of documents each year that it would be pointless to try to list them all or even those which contain information relevant to studies in comparative education. Biblio-

graphical information as to the principal United Nations statistical publications is given in the Publication Service's *Guide et choix d'ouvrages*. Of the reference works and yearbooks listed here, the most important are the *Directory of International Statistics* (1977), the *Statistical Yearbook*, which includes a special section on education, and the *Demographic Yearbook*. The historical supplement to the latter (published in 1980) provides chronological series for a 30-year period. A monthly *UN Documents Index* (UNDOC) is also published (in English only).

Of all the UN's specialized agencies, UNESCO is of course the most important and most exhaustive source of information on world education. The data it provides appear in a variety of forms, the most readily accessible being the books, periodicals, and yearbooks published by the UNESCO Press. These are listed in a *Catalogue of Publications* which is updated periodically. A selection of *Books in Print* is also distributed. This indicates the languages in which books are available and lists forthcoming titles.

There are also a large number of unpublished UNESCO documents of major interest to specialists in comparative education, including papers read to international conferences and specialist meetings, reports on missions by specialists in cooperation, and monographs and studies produced by the UNESCO Secretariat or prepared at its request.

In 1972 UNESCO established a computerized data bank which lists documents and publications relating to its activities. The data bank has been made available to the public in a variety of ways:

- (a) A quarterly *UNESCO List of Documents and Publications* and an annual cumulative list. Five-year cumulative lists (in two volumes) have been published for the periods 1972-1976 and 1977-1981. These include a master file of references listed by order of entry and indexed by subject, author, institution, and so on.
- (b) Microfiches of unpublished documents.
- (c) Access to the computerized database (either on the spot or via correspondence). Since the early 1970s, a total of some 50,000 documents have been listed. Each reference includes a full bibliographical description of the document, lists the languages in which it is available, and uses key words to describe its content. The *UNESCO Thesaurus* (which will eventually be amalgamated with the *International Bureau of Education Thesaurus*) is used for key words. Some documents include abstracts. The major advantage of the data bank is that it covers most unpublished documents connected with UNESCO activities: documents prepared for conferences or specialist meetings, monographs and specialist reports, many of which are for "restricted distribution". The latter are available only to authorized persons.

Anyone looking for general information on education in different countries will rely mainly upon books and articles published by UNESCO or under its auspices (these account for some 20 percent of all references). But the references to unpublished studies and documents, including those on restricted distribution, are also extremely useful to specialists, administrators, and researchers.

Although most UNESCO documents are listed in the data bank and the publications catalogue, mention should also be made of UNESCO's *Statistical Yearbook*, which is now compiled by computer. The database used for the *Yearbook* comprises data supplied by the statistics offices of member states in response to questionnaires sent out by UNESCO. Of the 91 tables published for each country in the 1981 *Yearbook*, 32 deal with education. These provide data for almost all countries on:

- (a) total enrolment by sex, number of years of education, and level and branch of education;
- (b) enrolment ratios for three levels of education;
- (c) percentage of pupils repeating a year;
- (d) students in higher education, broken down into nine fields of study;
- (e) number of diplomas awarded;
- (f) public expenditure on education;
- (g) rate of illiteracy.

Almost all quantitative world comparisons derive from this source. The main gaps are countries which are not members of UNESCO and some countries which do not answer the questionnaires regularly.

Are these comparative data reliable? In theory, UNESCO reproduces answers from member countries without checking or correcting them (except for obvious material errors). But the effects of UNESCO's attempts to improve and normalize education statistics are gradually making themselves felt: the data published in the *Yearbook* are gradually improving in both quantitative and qualitative terms.

Efforts to make the statistics uniform and comparable have been directed primarily at the definition of the enrolment ratio. Gross ratios relate numbers enrolled to total population numbers in an age group corresponding to the number of grades in a given academic cycle. At the primary level, these ratios may be more than 100 percent because repeating a year may mean that pupils of above-average age are still within the primary cycle. Net ratios are calculated on the basis of pupils of normal age. They are therefore by definition less than 100 percent.

It should be noted that indicators of enrolment are not established on any comparable basis for all countries. Since the length of the primary cycle varies from country to country (e.g., three years in Nepal, nine

years in Sri Lanka), the age groups taken into consideration when calculating gross ratios may vary in a ratio of one to three. Differences in the length of school cycles therefore mean that enrolment ratios are not comparable as they are calculated on different bases in different countries. UNESCO's 1985 *Yearbook* includes data on educational systems for 201 countries or territories. The number of first-level grades (i.e., elementary cycle) in these countries is shown in Table 1.

Attention should also be drawn to the limitations of comparisons of expenditure on education. The data given in UNESCO *Yearbooks* are often restricted to the budgets of ministries of education. Information provided by most countries gives no indication as to expenditure by regional or local authorities, other ministries, families, or firms. Statistics on illiteracy depend upon the criteria adopted by each country's census practice. According to the standard definition adopted by UNESCO, literacy means being able to read and understand a simple text relating to everyday life, but in practice each country uses its own definition.

Many other examples of the lack of comparability in international statistics could be given, but several mitigating factors need to be borne in mind. Firstly, the order of magnitude of differences between countries given by the statistics is more significant than the accuracy of the figures themselves. Secondly, progress is constantly being made both in terms of the accuracy and international comparability of statistics. Finally, it should be noted that, ultimately, comparisons based upon quantitative indicators, no matter how accurate and standardized they may be, are restricted by differences between the educational systems themselves: their structures, contents, and methods are not uniform and never will be uniform. That is why comparative education also deals with educational structures and their institutional context as well as school curricula, teaching methods, and educational policies.

UNESCO is a worldwide organization which undertakes a wide range of programmes, and the documents it publishes are therefore the richest source of documentation on educational issues. But UNESCO itself is not directly responsible for providing the public with documentation: that is the responsibility of the International Bureau of Education.

Table 1
Number of first-level grades (elementary cycle) per country

No. of grades	No. of countries
3	1
4	8
5	34
6	103
7	27
8	23
9	4
10	1

The International Bureau of Education (IBE) was set up in 1929 and became part of UNESCO in 1969. Its main function is to provide documentation on education in all countries. Its library in Geneva is one of the richest in the field of comparative education. IBE publications are listed in UNESCO's catalogues and data bank. But particular mention should also be made of a series of publications dealing with the proceedings of the conferences of ministers of education. These alternate with UNESCO's general conference and are held in Geneva every other year. The national reports given by each delegation mention the main changes that have taken place since the previous conference and provide an overview of trends in world education. They are now available on microfiche. The working papers drawn up on the chosen themes of each conference provide wide-ranging comparative studies and are supplemented by annotated bibliographies. The bibliographies are published in *Educational Documentation and Information: Bulletin of the IBE* (quarterly). More than 200 numbers had been published by 1983. The IBE also publishes international directories, such as the *Directory of Educational Research Institutions*, an updated edition of which appeared in 1980.

UNESCO's regional offices for education (there are also offices for science and culture) provide further useful sources of data and regional comparisons. The documents and publications they issue are listed in the *List of UNESCO Documents*, but each office also has a documentation centre with its own holdings and several of them issue lists of new acquisitions. This also applies to the regional centres for higher education set up by UNESCO in Europe (Bucharest) and Latin America (Caracas), and the UNESCO Institute for Education (Hamburg), which publishes, among other documents, the *International Review of Education* and a bibliographical bulletin on adult education (distributed in the IBE series).

Mention should also be made of the International Institute for Educational Planning (IIEP), which has a specialized documentation centre and which publishes a *Documentation Bulletin* (first published in 1981). This lists the many unpublished documents produced in the course of its activities (monographs, conference documents, studies on individual countries) and references for documents on planning in various countries.

The International Labour Organization (ILO) is the best source for international documentation on vocational training outside the school sector. A special section in its periodically updated publications catalogue provides a guide to books and other documents on the subject. The ILO also holds many unpublished documents which are of major interest for comparative education studies: these are listed in a computerized data bank which can be consulted at the Geneva headquarters or by written request. Documents are available in the library or on microfiche; abstracts stored in the database may be consulted on data terminals or reproduced on printouts.

The World Bank, which devotes some 10 percent of its loans to financing education and vocational training programmes, is a major source for documentation in comparative education. Data available from the World Bank include:

- (a) The socioeconomic indicators published as *World Tables*. The second edition (1980) comprises 250 tables dealing with 140 countries and divided into four series, one of which covers social indicators. An annual series of 12 tables is published as *World Bank Atlas: Population, Per Capita Product and Growth Rates*.
- (b) Monographs on the educational situation in individual countries. Since World Bank specialists enjoy the active collaboration of national statistics services, these monographs therefore provide particularly accurate diagnoses.
- (c) General studies on themes connected with education. These summarize recent research on issues connected with the World Bank's policy of intervention into the financing of educational programmes in Third World countries: financing school mapping, assessment of educational reforms, the effect on pupils' achievement of school books, levels of qualification of teachers, audiovisual methods, etc. These studies are published at irregular intervals in the World Bank's "Staff working papers" series and are available on request.

2. Regional Documentation

For comparisons between countries in the same region, data from the above-mentioned international sources should be supplemented by information from regional institutions specializing in education. Only their documentary resources will be discussed here and not their other activities.

UNESCO has regional offices for education in Africa (*Bureau Régional d'Éducation pour l'Afrique*—BREDA, Dakar), Latin America (*Oficina Regional de Educación de la UNESCO para América Latina y el Caribe*—OREALC, Santiago), and Asia (*Regional Office for Education in Asia and the Pacific*—ROEAP, Bangkok). A regional office for the Arab countries (UNEDBAS) is temporarily based in Paris. Each of these offices has its own documentation centre and publishes bulletins. UNESCO also has regional offices specializing in higher education in Europe (*Centre Européen pour l'Enseignement Supérieur*—CEPES, Budapest) and Latin America (*Centro Regional para la Educación Superior en América Latina y el Caribe*—CRESALC, Caracas). Publications from these bodies and their major documents are listed in the above-mentioned UNESCO bibliographical guides.

Several regional institutions collect and distribute comparative data on vocational education. The European Centre for the Development of Vocational Training (*Centre Européen pour le Développement de la*

Formation Professionnelle—CEDEFOP) publishes a bulletin in six languages on developments in vocational training in the nine countries of the European Economic Community. In its 1982 catalogue, the *Centro Interamericano de Formación* (CINTERFOR, Montevideo) lists more than 1,200 books, articles, and reports on vocational training in Latin America. The *Centre Inter-africain pour le Développement de la Formation Professionnelle* (CIADFOP) publishes a *Directory of Institutional Structures in Vocational Training* which provides data on governmental and paragonovernmental bodies responsible for technical education and/or vocational training. The second edition (1982) covers 22 institutions in 16 French-speaking countries in Africa (south of the Sahara).

A number of regional institutions which are not connected with the UN family also have documentation centres that are worth mentioning. In Europe, a number of regional organizations are active in the field of education. The Organisation for Economic Co-operation and Development (OECD, Paris) is a major source for documentation, especially for comparative statistics and for analysis of educational policy in member countries (since the 1960s OECD has also included the industrialized countries of North America and Asia). Numerous publications dealing with education are listed in the education section of the OECD publications catalogue, which is regularly updated. Unfortunately, a large proportion of the documents produced by OECD are not available to the public, being restricted to the national administrations of member countries.

In accordance with its policy of promoting free movement and circulation, the European Economic Community (EEC) carries out comparative studies on educational systems and vocational training in Common Market countries. Publications relating to these issues are listed in the catalogues of the Office for Official Publications of the European Communities (Luxembourg). In 1981, the EEC set up EURYDICE (the Education Information Network in the European Community), a documentation unit specializing in educational issues. EURYDICE was set up to provide a network for the exchange of data between member countries. Although intended for use by political decision makers and administrators, it can also supply the public with bibliographical data, particularly relating to EEC documents and publications of education.

The Council of Europe publishes a bilingual (French-English) quarterly newsletter which summarizes the major studies carried out in member countries and carries news on recent educational reforms (*Newsletter-Faits nouveaux*). The Council of Europe's publications catalogue consists of three sections (publications on sale, Council-sponsored material published by commercial publishers, free publications), each of which contains a section on education, youth, and sport. Many Council of Europe publications handled by commercial publishers are not listed in this catalogue. The documentation centre at its Strasbourg head-

quarters, however, holds a complete collection of Council of Europe publications and documents on education.

The EUDISED programme (European Documentation and Information System for Education) was launched under Council of Europe auspices in 1968 to establish a computerized data bank dealing with education in its 18 member countries (Federal Republic of Germany, Austria, Belgium, Denmark, Spain, Finland, France, Greece, Iceland, Ireland, Italy, Luxembourg, Norway, Netherlands, Switzerland, Turkey, United Kingdom, Yugoslavia). A multilingual thesaurus was published in 1974 (English, French, German, Spanish, and Dutch) and updated in 1982. A *EUDISED R & D Bulletin* on current or recently completed research has been published quarterly since 1978. Each issue contains some 250 abstracts (in English, French, or German) describing the objectives of the research, the data used, the analytic method used, and, in the case of completed research, the results. This system functions as a network of national documentation centres which use a common format to provide abstracts covering research carried out in their respective countries. Two other experimental programmes have been started, one on audio-visual teaching methods and one on education periodicals published in the 18 countries. Bulletins on these topics were published in 1976.

UNESCO documents and publications are the main sources for comparative data on educational systems in the socialist countries and Eastern Europe. These are listed in the publications catalogues (books) and the above-mentioned list of documents and publications.

UNESCO's European Centre for Higher Education (CEPES, Bucharest) publishes a bulletin in French, English, and Russian (*Higher Education in Europe*, quarterly) which reports on major changes in higher education. It is a valuable source for statistics and comparative studies on higher education in Eastern Europe.

The Organization of American States (OAS) has a department of education, science, and culture and a documentation centre for education. The *Centro Interamericana de Estudios y Investigación para el Planeamiento de la Educación* OEA (CINTERPLAN, Caracas), is one of its specialist education centres and is responsible for some OAS publications and comparative studies.

The *Oficina de Educación Iberoamericana* (OEI, Madrid) publishes a series of comparative studies on the educational systems of the Latin American countries, Spain, Portugal, and Puerto Rico. It has published a study on the training of teachers in the primary sector and a study of the curriculum in secondary education (OEI 1975, 1977).

Since 1982 the Institute for Ibero-American Cooperation (IIC) has published a bulletin (*Sumarios de Revistas de Educación*) which summarizes the main education publications published in the Latin American countries and Spain. The second issue (1982) dealt with

69 periodicals from 11 countries and 9 international institutions.

The *Agence de Coopération Culturelle et Technique* (ACCT), an intergovernmental organization set up in 1970, publishes research reports, bibliographies, and comparative studies on education in 29 member states and 6 associate states, all of which are French speaking. Although the countries concerned are spread across every continent, most ACCT publications deal with French-speaking Africa.

Certain other nationally based institutions dealing with international issues should also be mentioned because of the importance of their work and publications:

- (a) The International Council for Educational Development (ICED, Princeton) for higher education systems and vocational training in rural areas.
- (b) The International Council for Adult Education (ICAE, Toronto) and the UNESCO Institute for Education (Hamburg) for adult education.
- (c) The European Institute for Education and Social Policy (Paris) for the educational policies of Council of Europe countries; the Institute of International Education (Stockholm); and the International Association for the Evaluation of Educational Achievement (IEA).
- (d) The European Information Centre for the Further Education of Teachers (Prague) for the socialist countries of Eastern Europe.

It will be noted that the international distribution of regional sources of documentation is very uneven. Western Europe is very well-provided for because of the number of intergovernmental organizations involved in cooperative activities concerning education: OECD, EEC, Council of Europe. Latin America also has a number of specialized regional centres connected with the UN system or the OAS. The Arab countries have set up a number of institutions dealing with education, but have yet to develop documentation services. In the Asian countries, the diversity of languages and cultures means that there are few regional sources of documentation apart from UNESCO.

3. Other Sources of Documentation

As in other disciplines, the material produced by specialists in comparative education is aimed primarily at the scientific community rather than at a broader audience of educators and practitioners.

Research in comparative education deals with a very wide range of subjects, and a nonspecialist reader may have some difficulty in locating information that corresponds directly to his or her needs. There are, however, a number of general studies and articles in periodicals which provide surveys of recent work. A selection of the most recent and best documented

includes works by Altbach (1979), Altbach et al. (1981), and Berdahl and Altomare (1972). These are especially useful works of reference, providing 3,080 references indexed by subject, country, and region (including 2,000 titles dealing with the developing countries) and references for 60 bibliographies. Other recent general studies include the work of Holmes (1982), Lê Thành Khôi (1981), and Diego Marquez (1972).

In addition, some 20 comparative education journals allow specialists and other interested readers to keep abreast of research trends and theoretical discussions. The main specialist periodicals include the *International Review of Education* (UNESCO), *Prospects* (UNESCO) which is mainly devoted to international problems in educational policy, *Comparative Education Review* (United States), *European Journal of Education* (France), *Comparative Education and Compare* (United Kingdom), *Education Comparée* (France), *Revista Latino Americana de Estudios Educativos* (Mexico), and *Vergleichende Pädagogik* (German Democratic Republic).

In terms of comparative studies of qualitative factors, special mention must be made of the International Association for the Evaluation of Educational Achievement (IEA) study in which representative samples of pupils between the ages of 11 and 16 in 21 countries took tests in six subjects. This unique comparative study has given rise to numerous publications. The main results are discussed in Walker (1976), which includes a bibliography on the project. A second stage to the study was launched in 1980 in a larger number of countries. The findings have been available since 1986. [For further discussion of the International Association for the Evaluation of Educational Achievement (IEA) see Postlethwaite 1985.] An annotated bibliography of IEA publications has been prepared by Postlethwaite and Lewy (1979).

Apart from handbooks and journals which provide information on comparative education research, mention should also be made of national sources of data on educational issues in various countries. Readers who wish to locate more detailed information than that provided by the above-mentioned sources can consult documentation centres in a number of countries. The IBE publishes a brochure on current sources for bibliographical information on education in its *Documentation et Information Pédagogiques* series (1977) which lists bibliographical sources for 42 countries. Some of the national centres mentioned have information departments which can respond to specific requests for documentation, but not all countries have established such departments. If documentation from national sources is used for comparative studies it often has to be interpreted in the light of the national characteristics of the educational system of the country in question. It is, of course, the task of specialists in comparative education and international organizations to clarify both the importance and the limitations of international comparisons.

Special mention must be made of the Educational Resources Information Center (ERIC) system in the United States as it is, to date, the best example of an integrated computerized documentation system. Several other countries are setting up similar systems. Set up in 1966 by the National Institute of Education, the ERIC system is the most advanced example yet of a documentation system using modern information technology and computerized networks. A network of 16 specialist centres prepare abstracts which are fed into two databases: one for articles in periodicals (*Current Index to Journals of Education—CIJE*), which publishes abstracts from 780 journals each month (mainly North American), and one for reports on research, current research, published and unpublished documents, and books (*Resources in Education—RIE*).

Both databases are available to the public via:

- (a) monthly bulletins, with biannual cumulative indices;
- (b) bibliographies on specific themes;
- (c) microfiches or photocopies of documents stored;
- (d) access via linked data banks that are relayed to a large number of countries by satellite.

As of 1982 CIJE had stored 270,000 abstracts. The database is growing by some 15,000 references a year.

The ERIC system thus gives researchers and other interested parties direct access to research and publications on educational problems (primarily from the United States) and enables them to locate the specific information they require.

4. The Future of Documentation Networks

Current developments in information technology suggest that networks similar to the ERIC system will eventually be set up at the international level. Linked computer systems facilitate the division of labour in locating and indexing documents. They also facilitate direct user access to the database. Several projects have been drawn up and discussed, but it will take a long time to put them into operation at the international level, mainly because national computerized documentation systems are either nonexistent or inadequate. Steps have, however, been taken to establishing such networks at the regional level.

In 1976 the Council of Europe began establishing a network of national databases with national institutions serving as relays in each country. The EUDISED network is at present limited to a bulletin of abstracts of current or recently completed research projects. The plan is to increase the network's coverage and to computerize it when the difficulties of a multilingual vocabulary have been satisfactorily resolved.

In Latin America, a regional programme for information on education was established in 1981. This is

based upon collaboration between national documentation centres, several of which already publish abstracts of research carried out in their respective countries and sometimes in other countries. One such centre is the *Centro de Investigación y Desarrollo de la Educación* (Santiago de Chile), which has been publishing a bulletin of analytic abstracts since the 1970s. By 1982 its *Resúmenes Analíticos en Educación* had published 800 abstracts.

In 1981 the cooperative *Red Latinoamericana de documentación educación* (REDUC) programme was set up by nine national centres in Bolivia, Chile, Costa Rica, Ecuador, Paraguay, Panama, Peru, and Venezuela. The main purpose of the network is to share the preparation of analytic abstracts dealing with educational research in the eight countries and to extend it to other countries in the region. Coordination between centres in Argentina, Brazil, and Mexico has already been established. According to REDUC estimates, 3,200 researchers were working in education in Latin America in 1982. Fifteen thousand bibliographical references for research and publications have been listed, along with 3,000 analytic abstracts, 1,425 of them made by the eight REDUC countries (Schiefelbein 1982).

INED (International Network for Educational Information) was set up by the IBE but it is still at the stage of listing national institutions distributing information. It does, however, represent a first step towards the collection and processing of information on education all over the world.

These developments suggest that problems of documentation in comparative education are likely to change considerably over the coming years as a result of developments in documentary information technology and the falling cost of storage and distribution. The rate of change will depend primarily on the speed at which national networks are set up to act as relays for the international network. Presumably, national networks will initially include administrative data (laws, regulations, government directives, and national curricula). Later they will be extended to take in books and articles in journals and will eventually cover current research and unpublished documents. For the user, the problem of locating documentation on world education will be completely transformed.

Links between national networks raise the problem of multiple languages, but the EUDISED experiment shows that this is not an insurmountable difficulty. The fact that the international INED network has been set up at a time when national networks have yet to be definitively established (with the exception of the ERIC system in the United States) points to the future solution of problems relating to compatibility between computer languages, software, and data capture systems.

5. Where to Find Documentation

Given the variety of sources of documentation in education and the diversity of people who use that docu-

mentation, the indications given in this article have been chosen with the needs of the nonspecialist in mind. The emphasis has therefore been placed upon international organizations as the information they supply is designed for political decision makers, administrators, and teachers rather than for specialists in comparative education. Besides, international and regional organizations do not simply compile information on various aspects of education in their member countries: they try to present it in as homogeneous a manner as possible, often harmonizing classifications and normalizing concepts. They thus make a vital contribution to comparative education.

The main sources of information can also be classified by type of document:

- (a) Books: publications catalogues or international organizations.
- (b) Articles in periodicals, major national databases: CIJE in the United States, *Bulletin signalétique des Sciences de l'Éducation* in France, *British Education Index* in the United Kingdom.
- (c) Research reports: the Resources in Education (RIE) database (ERIC) gives almost exhaustive coverage of material produced in the United States. EUDISED directories cover research programmes in 16 countries in Western Europe.
- (d) Documents: UNESCO's "Publications and documents" database lists documents produced by UNESCO and other bodies.
- (e) Educational systems: IBE publications provide the broadest coverage.
- (f) Bibliographies on specific subjects: IBE thematic bibliographies provide the greatest coverage in geographical terms.
- (g) National documentation on specific countries: the second (1977) edition of the IBE's "Current Sources of Bibliographical Information on Education" mentions 128 national documentation centres in 44 countries.
- (h) Comparative statistics: UNESCO's *Yearbooks* periodically reproduce data stored in the computerized database into which member countries' replies to questionnaires are fed. In 1977 the IBE published a directory of *Statistics Relating to Education: National and International Sources and Services* which breaks down data by country.

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Major Aspects of Education Viewed Comparatively

Comparative Studies in Preschool Education

M. Woodhead and D.P. Weikart

Increasing proportions of the world's youngest children are no longer in the exclusive care of their families, but are to be found in a wide range of settings, which can loosely be termed preschool. No single definition of preschool education has cross-national validity, notably because the starting age of primary schooling (in most countries compulsory) varies between 5 years old (e.g. United Kingdom, Israel) and 7 years old (e.g. Scandinavia, Soviet Union). For most of the world's children 6 years old marks the start of schooling. But even this basis for defining preschool is complicated in some countries by an intermediate stage between preschool and school (e.g. the kindergarten year for 5-year-olds in the United States and some Latin American countries).

There is also considerable variation in the institutional arrangements for preschool, and the extent of professionalization of staff. Preschool education is most often thought of as an integrated part of the education system (as in the *écoles* and *classes maternelles* of Belgium and France, and the *kleuteronderwijs* in the Netherlands), but it may be community based (as in the federally funded but locally planned Head Start programmes in the USA), or run by employers (as in the *mobile crèches* for construction workers in India), or managed by and for parents (as in the British *playgroup* movement). It may also be part of the full-day-care provision used by working parents (as in the *daghem* of Sweden), or it may even not be based in a centre at all (as in the home-visiting schemes in rural Norway). Indeed in many countries there is a combination of these arrangements for the early years. In this article the focus is on studies of organized preschool programmes with explicit educational objectives.

There have been relatively few systematic cross-national empirical studies of preschool education, largely because, with a few exceptions, it is only in recent decades that preschool has become an established sector within national education systems. Nonetheless, preschool has been the subject of extensive research and four broad groups of studies can be identified as relevant to comparative enquiry.

1. Fundamental Studies of Preschool Effectiveness

A major justification for development of preschool education has been its potential to modify school achievement and life prospects. Though originating within national boundaries, the evidence of these studies has potential policy relevance throughout the world. The most comprehensive long-term studies have been carried out within Western democracies (for example Belgium, Britain, Canada, Ireland, and the United States). A major incentive has been the promise that systematic early educational intervention could reduce the incidence of poverty, deprivation, and underachievement, and promote the political ideal of equality of opportunity. Undoubtedly the best-known and most extensively researched initiative is Head Start in the United States, which has been running continuously since 1965. While early evaluations failed to show the promised effects on IQ and school achievement (except in the short term), there is now convincing evidence of long-term effects on educational and social outcomes for disadvantaged children. In particular a meta-analysis and combined follow-up of 11 well-designed experimental projects by the "Consortium for Longitudinal Studies" found with remarkable consistency that children who experienced a preschool programme were less likely to be referred to special education classes, or be required to repeat a grade; they were more achievement oriented; their parents had higher educational and occupational aspirations than control children's; and they more often completed high school and were more likely to find employment (Lazar et al. 1982).

One of the projects in the Consortium, David Weikart's Perry Preschool Project, has followed the sample to the age of 19 by which time children who had experienced preschool were less likely to have been arrested, had fewer experiences with unemployment, had higher incomes, were more satisfied with their work, and made less use of public welfare benefits than the control group. There was also a lower incidence of teenage pregnancies amongst girls in the programme group (Clement et al. 1984). This dramatic evidence

has been widely quoted in the United States as well as further afield in support of the case for publicly funded preschool education programmes.

There have been some studies with similar objectives carried out in developing countries, notably Latin America (summarized in King and Myers 1983). For example, in Cali, Colombia, extreme low-income children already showing early signs of malnourishment were assigned either to a control group or to one of four experimental groups (representing different ages of starting/lengths of programme). In addition to educational objectives, the preschool programme incorporated health and nutrition components. Effects on general cognitive ability were established (related to extent of intervention) which persisted in diminished form at least up to the age of 8. These children were also less likely to be retained in grade than the controls.

As the above illustrates, there is an imbalance in evidence on the potential of preschool education, with the US studies dominating the research literature and policy discussions. From a comparative perspective this raises the issue of the cross-national generalizability of the US evidence of long-term effectiveness. Despite the popularity of the metaphor, preschool is not "an inoculation against failure". Unlike an immunization programme which can be administered with some confidence of universality of basic bodily processes, the effectiveness of an early childhood programme depends on a complex of concurrent and future social processes which are variable within as well as between national and cultural settings. Attention has been drawn to factors in the community context, family environment, and design of the programme that may moderate the immediate impact on children, as well as processes in the school and society which may serve either to amplify or to attenuate preschool effects in the long term (Woodhead 1985). Nonetheless, accumulating evidence both within the United States and further afield gives some confidence of worldwide policy significance.

2. National Studies of Preschool Education

Even before the recent consolidation of evidence on preschool effectiveness, governments throughout the world had given increased attention (although often only modest resources) to the development of early childhood services. Numerous programmes of research have been mounted to facilitate this process (for example in Britain, the Nursery Education Research Programme, and the work of the Oxford Preschool Research Group). These studies have ranged from routine collection of statistics, to action research to develop preschool strategies, and to systematic evaluation of alternative models; they offer lessons about fruitful questions for comparative investigation.

Amongst industrialized countries with well-es-

tablished basic education systems a key issue has been the organizational arrangements and curricula for preschool, and their relationship to primary schooling. Chazan (1978) includes seven national reports of research (from Australia, Belgium, Federal Republic of Germany, Israel, the Netherlands, Scandinavian countries, and the Soviet Union). By way of illustration, a major issue in the Federal Republic of Germany has been where 5-year-old children should be educated—in primary school classes or a preschool education setting. Both types of provision coexist: *Kindergärten* (nursery schools) are the traditional provision which in the mid-1970s catered for 70 percent of 3- to 5-year-olds in vertical groups, while *Vorklasse* (preparatory classes) took 3.5 percent of 5-year-old children as a preliminary stage within primary schools. This distinction also coincides with philosophical differences in approach to teaching young children (play-based versus more structured teaching); staffing arrangements (the *Erzieher* in *Kindergärten* having lower status than the *Sozial-Pädagoge* in schools); and administrative responsibilities (Ministry of Social Affairs versus Ministry of Education and Culture). The outcome of experiments carried out in the *Länder*, notably North Rhine-Westphalia, have not been conclusive and these structural arrangements continue to co-exist. Similar structural divisions can be widely observed, set against particular cultural priorities and school arrangements in different countries. For example, Woodhead (1979) reviews the issue for the Netherlands, Federal Republic of Germany, United Kingdom, and Switzerland.

Amongst developing countries, where in many cases universal basic education is still being established at the same time as a preschool sector is emerging, the priorities for research have been somewhat different. The central issue has been whether diversion of scarce resources to early childhood would weaken or actually improve efficiency in primary education, by preparing children for the demands of schooling and reducing the wastage through drop-out and retention-in-grade currently experienced in many cases. King and Myers (1983) include national reports on these issues from Latin America, Africa, and Asia. By way of illustration, in India there are over 100 million of the youngest age group (0-6 years). *Balwadis* (nursery schools) historically were established to serve the children of upper-class families, but have been extended to less privileged groups by state authorities and voluntary groups. But the coverage is very restricted (18,500 in 1975-76). At the same time, basic education (which is free and compulsory) is only attended by a proportion of the age group (69 percent of 6- to 14-year-olds in 1977-78). Many more boys than girls attend and the retention and drop-out rates are substantial (only 40 percent of those entering standard 1 reach standard 5, only 25 percent reach standard 7). In these circumstances, one view is that preschool education is a luxury, and that resources are best devoted to improving the quality of curricula.

teaching methods, and professional skills in basic education. An alternative view emphasizes the early years as a period when children's cognitive and social skills and general orientation to schooling are moulded. It favours developing relevant strategies for young children and their families, rather than merely adopting developed-country models which are costly and often culturally inappropriate. In India a variety of action research projects have demonstrated how carefully planned input in the preschool years can modify school readiness and attendance rates. Subsequently an inservice training model has been developed to prepare professionals in school readiness programmes. Studies carried out in other developing countries (including the Colombian study mentioned earlier) endorse the significant place that preschool education can have in strengthening national education systems.

Research projects rooted in particular cultural milieux and educational settings are invaluable in the development of national education systems. But by the same token they have limitations as a basis for developing a general understanding of the function of preschool education. Cross-national study offers the opportunity to draw general conclusions from a much wider range of variation both in types of preschool setting, social and economic context, family circumstances, and school arrangements.

3. International Cooperation in Early Childhood Education

During the 1970s the intergovernmental organizations played a significant role in promoting a comparative perspective on preschool education through their cross-national projects. For example, the Organisation for Economic Co-operation and Development (OECD) ran a project throughout the 1970s, culminating in a series of commissioned studies on key themes (OECD 1981); UNESCO was responsible for an early worldwide survey of preschool education (Mialaret 1976), as well as running cross-national seminars on preschool issues affecting the developing nations; and the European Economic Community (EEC) engaged in a small-scale enquiry into the arrangements for preschool education in the nine member states at the time (Goutard 1980).

The work of the Council of Europe will serve as an illustration of the function of such organizations in preschool developments. Between 1969 and 1979, 24 member states of the Council of Europe's Council for Cultural Cooperation completed questionnaires, prepared working papers, and contributed to symposia. Political, economic, cultural, as well as educational diversity provided natural opportunities for policy analysis of a range of approaches to shared issues, notably: the compensatory role of preschool education; preschool education for the children of migrant workers; preschool education in sparsely populated areas; the link between preschool and primary education; and

cooperation between preschool, parents, and the community. For example, the theme of preschool in sparsely populated areas was pursued through a series of case studies: a French project to encourage intermunicipal cooperation in providing a centralized *école maternelle*, and a transport system for children to attend; a British "satellite" model involving small village playgroups being linked to the resources of a nursery school in a centrally located town; and a German study of the potential of educational television for young children. As for other themes, this culminated in a symposium at which recommendations for preschool development were agreed (Woodhead 1979).

Finally, in this context, acknowledgement should be given to the role of diverse international development agencies and charitable trusts in stimulating preschool developments in many parts of the world, for example: the Bernard van Leer Foundation, the Hague, Netherlands (an industrial nonprofit fund); the Aga Khan Foundation, Geneva, Switzerland (a trust fund linked to the Ismaili community); and the International Development Research Centre, IDRC, (a Canadian government-based research group).

4. Cross-national Studies of Preschool Education

Finally, we come to the research-based comparative studies. These have mostly concentrated on arrangements for provision and impact on achievement. Austin (1976) made an interpretative study of provision in a group of industrialized nations. A secondary analysis was carried out on data collected as part of the International Association for the Evaluation of Educational Achievement (IEA) surveys, which suggested that at least for mathematics, there was a tendency for attainment at 13 years of age to be higher in countries with well-established early educational provision (Austin and Postlethwaite 1974).

In Latin America a collaborative survey in Bolivia, Chile, and Colombia pointed to the fragmentation of available provision and the case for focusing planning on its important role in social development. A study of first-grade children in these countries as well as in Argentina compared those who had participated in preschool with those who had not and pointed up some of the complexities of preschool effects. For example, effects were found on reading and writing in Argentina and Bolivia, but not Colombia and Chile. In Argentina and Chile, preschool participation was positively associated with enrolment in first grade, whereas in Colombia and Bolivia, preschool participants were more likely to be required to wait 1–3 years before enrolment in school (Filp and Scheifelbein 1982). Other similar studies are under way, for example comparing kindergarten (5-year-old) children in the United States, Japan, and Taiwan on cognitive and social measures.

In conclusion, the existence for the first time of sound evidence on the potential effects of preschool lends

some urgency to the call for well-designed cross-national studies of the functions it serves for families, for children's development, and for school systems. Numerous studies of preschool education have been conducted throughout the world, in many cases addressing very similar issues in particular national contexts. Comparative enquiries have been initiated by the international organizations mostly with the objective of information and policy exchange. Those few systematic studies that have been designed with comparative objectives have been restricted both in the countries covered and in the focus of enquiry.

There is an urgent need for studies that go beyond these narrow paradigms, especially by linking outcome measures (school achievement and social adjustment) to process measures (of the quality of preschool learning environments). This is one of the major goals of a cross-national Preprimary Project currently being coordinated by the High/Scope Educational Research Foundation in the United States, under the auspices of the International Association for the Evaluation of Educational Achievement (IEA). Three phases are planned: national surveys will provide information about the major types of preschool setting and patterns of their use; the quality of children's experiences in these settings will be assessed, including observation of their activities and interactions; and finally, the impact of preschool on later adjustment to school will be assessed by a follow-up study.

Such worldwide "natural experiments" in preschool education promise to help bridge the gap between the carefully designed experiments that have shown the potential of preschool education, and the requirements of policy makers in particular cultural settings for a knowledge base which will enable them to develop quality early childhood care and education, which is both responsive to the needs of families and ensures that children benefit from the experience.

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Comparative Studies in Primary and Secondary Education

R. M. Thomas

The term "comparative studies" is intended to mean analyses of likenesses and differences between two or more educational operations. An "operation" can be as narrow as the tutoring of one pupil by one teacher or as broad as a nation's entire school system. The phrase "primary and secondary education" refers to the 10 or 12 years of schooling that follows kindergarten and that precedes college, university, and adult vocational programs.

Because so many thousands of such studies have been conducted over the past decades, it cannot be the purpose of this article to review them all. Rather, the purpose is to illustrate types of studies as categorized along three dimensions. The first dimension is labeled "breadth of educational operation," the second "edu-

cational aspect," and the third "research methodology."

Breadth of educational operation refers to the number of people or number of schools or programs included in the study. A comparison can be made between as few as two pupils or two teachers, or the comparison can encompass as broad a range of people and programs as those found in widespread regions of the world, such as "developing nations" compared with "advanced industrial nations" or "Sub-Sahara Africa" compared with "Latin America."

Educational aspect means the portion of the overall function of education on which the study focuses. There are dozens of major aspects, with scores of subaspects under each of them. For example, under the major

aspect of "influences on education" there are subaspects of geographical factors, population distribution, economic conditions, political influences, and others. Under the major aspect of "educational administration" are subaspects of school finance, promotion policies, evaluation systems, personnel selection, teacher supervision, labor negotiations, public relations, school law, and more. Under "curriculum and instruction" are subaspects of curriculum content, lecture techniques, discussion methods, peer tutoring, audiovisual aids, classroom discipline, evaluation techniques, and the like.

Research methodology refers to the procedures used in the study for gathering, organizing, and analyzing information. Researchers may gather information by interviewing people, by distributing questionnaires, by reviewing historical documents, by testing students, by observing teachers and pupils perform, or by conducting experiments (as in teaching one group of pupils by one method and another group by a different method). The results may be compared in qualitative or quantitative terms or both.

Various ways in which the three dimensions can be combined in comparative studies are suggested in the following paragraphs. Illustrative studies are presented in terms of their breadth-of-operation dimension, beginning with small-scale research in a single nation and progressing to studies that include thousands of students in dozens of countries. The examples within each of the categories reflect diverse educational aspects and research methods.

1. Within-nation Studies of Limited Scope

The term *limited scope* means that a relatively small number of schools, administrators, teachers, or students have been included in the investigation. Many thousands of such studies have been carried out, with most of them focusing on the influence of selected variables on educational outcomes.

One example is Schiefelbein and Farrell's (1982) eight-year longitudinal study of the success of a group of secondary-school students in Chile, a project that included measures of student progress as well as analyses of questionnaires filled out by students, teachers, parents, and school administrators. The researchers concluded that such school factors as textbook availability, teachers' skills, and a pupil's high academic performance in the early grades of school were better predictors of ultimate educational and occupational success than was the pupil's socioeconomic background.

A second illustration is Baba and Fraser's (1983) survey of the attitudes of 834 junior-secondary students in Fiji regarding a United Nations-sponsored social science curriculum (how interesting the curriculum was, how easy to understand, and how adequate the study time). The results showed that attitudes toward the curriculum varied with students' ethnic backgrounds, their school's location, and their teachers' training.

2. Nationwide Studies

Nationwide studies are research projects aimed at revealing how regional education systems, types of schools, administrative practices, educational achievement, types of curricula, kinds of students, or other factors compare throughout an entire country. Frequently such investigations are sponsored by the national government. In other cases they are conducted under the aegis of a professional body (such as an administrators' association), a private research institute, a testing service, or a private foundation.

An example is the Indonesian national assessment of education conducted during the early 1970s as an aid to the country's socioeconomic-development planners, a study funded cooperatively by the Indonesian government and a foreign philanthropic foundation (Beeby 1979). A wide range of comparisons was encompassed by the project, including comparisons of private versus public schools (in administrative control, finance, facilities, types of students, student-achievement scores, staffing), religious versus secular schools, conflicting aims of education, student-enrollment ratios over time, curriculum contents in relation to national educational purposes, successful learners versus school dropouts, types of teaching methods and materials, and more. Research methods included achievement testing, content analyses of curriculum materials, the examination of educational-policy statements and financial records, interviews with administrators and teachers, interviews with parents and pupils, observations of classroom practice, and the inspection of school facilities.

An illustration from the United States is the comparison by Coleman et al. (1982) of nearly 60,000 public, private, and Catholic secondary-school students' achievement, a project conducted by means of achievement tests (reading, vocabulary, mathematics) and questionnaires completed by educators and students in 1,015 randomly selected schools. The study was carried out by a survey-research bureau in a private university.

3. Small-scale International Studies

A great amount of small-scale research focusing on two or more countries has been produced by individuals, by teams from universities and research centers, and by intergovernmental organizations. Such studies are labeled *small-scale* because they involve fewer nations, fewer students, or more limited aspects of education than do the investigations described below as *large-scale* studies.

Much small-scale research is truly comparative, in that the authors present analyses of likenesses and differences among the nations they study. The following two are of this type.

Bennell (1984) analyzed the effectiveness of craft training in Kenya, an investigation involving comparisons not only between two nations (Britain and Kenya) but also over time (from colonial days in Kenya

to the present), with the methodology including both (a) the analysis of trends in program policies and (b) job-placement comparisons between craftsmen from formal training programs and craftsmen who had no formal training.

Martin (1982) performed a content analysis of elementary-school textbooks from mainland China and from Taiwan to reveal the contrasting goals of socialization in the two societies.

Although many reports of research involving several nations are actually comparative, others offer no more than separate descriptions of several nations' schooling practices, leaving to the reader the task of identifying similarities and differences among the practices. Such is the case in Bhatnagar's book *Educating Immigrants* (1981), a volume comprised of in-depth, but non-comparative, case studies of programs for teaching immigrant children in Australia, Britain, Canada, France, West Germany, Israel, Sweden, the United States, and the Middle East.

4. Large-scale International Studies

The best-known educational studies involving comparisons among diverse societies and large numbers of schools are those carried out by such bodies as United Nations organizations (especially UNESCO), the International Association for the Evaluation of Educational Achievement (IEA), and the World Bank.

An instance of a UNESCO investigation is Deble's (1980) questionnaire survey of 62 nations to discover whether the expansion of education throughout the world has increased educational opportunities for girls. Her results showed that in over 95 percent of the countries, as education expanded, the inequality in education between males and females widened.

The IEA began in the early 1960s as a non-governmental coalition of research centers in 12 nations, with the group's first major study focusing on cross-national comparisons of pupils' achievement in mathematics. The methodology in that project consisted of administering the same mathematics tests to representative samples of pupils in all 12 countries. Because the tests were based on learning-objectives common to the 12 school systems, meaningful cross-national comparisons could be drawn from the results.

After the early 1960s, more nations joined the IEA so that by the mid-1980s there were nearly 40 countries in the organization, with each nation's representatives identifying those IEA studies in which they wished to participate. For example, in the investigations following the initial mathematics study, 19 countries took part in the research on science education, 10 on civic education, and 8 on teaching French as a foreign language. Other aspects of education on which major IEA studies have focused have been those of reading comprehension, understanding literature, teaching English as a foreign language, written composition, the effects of classroom

environments, and the collection and "banking" of test items.

In their studies of subject-matter fields, IEA investigators have sought not only to measure the level of pupils' achievement but also to reveal the likely effect on achievement of various factors in pupils' lives, such as their home background and classroom learning environment. Therefore, not only have pupils taken tests of various types, but information has been collected about their lives outside of school, and observations have been conducted of their interactions with teachers and classmates (Carroll 1975, Comber and Keeves 1973, Peaker 1975, Thorndike 1973).

5. Meta-analysis

A final distinction to be drawn among comparative studies is between direct analysis and meta-analysis. *Direct analysis* refers to interpretations researchers derive from data they themselves have collected to answer a particular question. In contrast, *meta-analysis* refers to an author's reviewing the professional literature in order to perform an overarching analysis of a host of individual studies that were carried out by other researchers. A key purpose of meta-analysis is to increase the number of people, variety of settings, and methods of investigation on which broad-scale conclusions can be based.

As an example, Morgan analyzed more than 100 studies of how a teacher's offering students a reward will affect students' intrinsic motivation to learn. He concluded that "rewards can have either undermining or enhancing effects depending on circumstances. Furthermore, in attempting to understand the effects of a reward, it seems most appropriate to attempt to view it from the perspective of the recipient rather than concentrating on reward type, magnitude, and so forth" (Morgan 1984 p. 25).

6. The Future

Over the twentieth century, the quantity of comparative studies has increased each decade, except during the years of the two world wars. It seems reasonable to expect that such studies will increase at a growing rate in the future, with even greater attention given to nationwide and international research than has been true in the past.

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Comparative Studies in Technical and Vocational Education

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In its *Revised Recommendations Concerning Technical and Vocational Education* adopted in 1974, the General Conference of UNESCO determined that such activities should be:

- (a) an integral part of general education;
- (b) a means of preparing for an occupational field;
- (c) an aspect of continuing education.

It follows from this triple specification that comparative studies in technical and vocational education (TVE) demonstrate substantial overlap with most other fields or modes of education. Technical and vocational education can occur at the primary, secondary, or tertiary level; it can be directed towards adolescents or adults; it may or may not be part of the formal school system. Hence, this article will emphasize the general aspects of TVE, irrespective of particular levels or institutional settings. First, central issues of current research on TVE are named. Then, after a few remarks on the methodology of comparative studies in TVE, purposes and types of such studies are analyzed.

1. Central Issues of Research

Obviously, the list of possible topics of research in TVE is inexhaustible. If "comparative studies in TVE" are taken to include all material which is in some way related to TVE and which includes any comparative and/or international aspect at all, there are countless studies already published which would meet this broad criterion, inasmuch as there is a host of TVE programs around the world which attracted (or at least would merit) attention and careful evaluation.

Nevertheless, there are certain distinguishable issues which have received more emphasis than others. Not surprisingly, these refer mainly to themes which have been politically controversial in a number of countries and which have provided motives to relate existing options to parallel solutions tested abroad.

One of these areas—and perhaps the most fundamental issue—is that of different relationships between TVE and general education (Lauglo 1983). Different countries have different experiences with possible forms of integrating general and technical/vocational education, and even within countries there is much debate as to the best available option. The two extremes are a comprehensive school system with a fully integrated TVE curriculum (as in the United States) and an early separation of general/academic tracks on the one side and technical/vocational tracks on the other (as in the Federal Republic of Germany). As was to be expected, the respective national controversies have produced a great deal of material which is also of interest internationally. There have been very few truly comparative studies, however, for reasons which will be analyzed below.

Similarly, it is a fundamental question for many developing countries, how to relate different "modes" of TVE—formal vs. nonformal vs. informal education—to the existing problems of national development (Ahmed 1983). There are, of course, certain hypotheses in the minds of educational planners, which were reflected in the priorities awarded to particular programs. Yet, again it seems difficult to arrive at a rational choice between the various institutional modes, partly because the choice may depend on the weights attributed to a number of competing criteria. The two extremes here would be a strictly cost-effectiveness oriented perspective (e.g., Borus 1977) as opposed to a strictly ideological point of view.

Another issue which has received considerable attention is that of special problems in TVE for women (Cismaresco 1975; see also Berthelot 1982). Thus, problems of inequalities between occupational opportunities for women and men have given rise to special studies on women in traditionally male TVE programs (e.g., Schulz et al. 1984).

In general, of course, it would be possible to try and categorize these and similar research issues into

problems of the internal or external efficiency of certain options in TVE, thus emphasizing aspects of program evaluation. Another possibility would be that of distinguishing pragmatic, problem-related investigations from a more theoretical orientation, presumably with the effect of underestimating those studies which deal with concrete, institutional problems. In practice, both perspectives are inseparable from each other. For this reason, the following typology of comparative studies in TVE will be based upon a different form of analysis: an attempt will be made to derive types of comparative studies in TVE from the underlying structures of evaluative reasoning. This approach will serve to show how much work has to be done until comparative work in TVE can be expected to contribute substantially to the solution of respective practical problems.

2. Methodology of Comparisons

The opinion that all comparative studies in education are and should be related at least indirectly to questions of concrete policy decisions (King 1967) seems to meet with increasing agreement. Since policy decisions consist of "the examination of many feasible alternatives and making a choice among them according to an objective" (Psacharopoulos 1985), it must be possible to express the relevance of comparative studies in TVE in terms of contributions to knowledge about existing alternatives and their consequences.

Ideally, according to Psacharopoulos, the policy maker is in a situation where he or she has access to conditional statements of the form: if policy X_1 , then outcome Y_1 ; if policy X_2 , then outcome Y_2 . Only if such generalizations exist, can he or she make a rational choice between the available options X_i by comparing the respective outcomes Y_i .

The comparison between outcomes may, however, be a rather complex matter. Only under very special circumstances, will all Y_i be well-defined values on a single variable or dimension, and, similarly, a particular "policy" will usually involve the manipulation of more than one independent variable. Thus, one is really relating sets of manipulable policy variables to sets of outcome variables. Often, "minimum attainment levels" are specified for some of the outcome variables; in this case, the decision-making process is considerably simplified, because it is possible to dichotomize available options into "suitable" and "unsuitable" alternatives. Effects on outcome variables for which no such objectives are specified are called "side effects."

It should also be recognized that the above-mentioned conditional relationships "if X_i , then Y_i " usually contain some reference to nonmanipulable context conditions (C): "given a saturated labour market in the automobile industry (C), the creation of new nonformal metal-work training programs (X_1) will not reduce youth unemployment (Y_1)" may be an example for an argument used by a policy maker or planner in TVE.

This structure of reasoning may now serve to dem-

onstrate the special functions as well as some special problems of comparative studies in TVE. The potential of such investigations lies in the possibility of covering a greater range of implemented policies, achieved outcomes, and stated objectives than the variation existing within only one system of education. Thus, research of this kind facilitates not only the analysis of relationships between varying objectives and outcomes in a given situation, but also the study of effects of identical/comparable policies under varying context conditions. In short: if pursued systematically, comparative studies in TVE are, indeed, likely to contribute much to our theoretical understanding of the field and consequently to our capability of solving the respective practical problems.

Most of the methodological difficulties of such studies have their origin in the fact that policy variables X , outcome variables Y , and context variables C are nowhere as intricately interwoven as in TVE: whereas educational processes in most other areas occur in a relatively autonomous setting, TVE is, by definition, situated at the interface of the educational and the economic system. That implies that the relevant context variables will be of a predominantly economic nature, and this, in turn, means that particular policies in TVE will generally be less comparable internationally than, say, certain practices in primary education. Not surprisingly, then, much of the available comparative material in TVE is incomplete in the sense that it does not constitute valid generalizations such as those needed by policy makers. For the present introductory purpose, however, various forms of an incomplete argument can be distinguished, so as to arrive at a typology of comparative efforts in the field.

3. Hermeneutic Case Studies

Historically the oldest and probably still the most frequently chosen approach in the international literature on TVE is that of hermeneutic case studies. These studies concentrate on relationships between some stated general objective and a particular program or policy and on interpreting its significance in terms of more general societal tendencies. Reference to context conditions will tend to be ideographic rather than explanatory, thus emphasizing individual occurrences rather than testable generalizations.

Strictly speaking, there is nothing inherently "comparative" in this approach. However, this type of material has accumulated to such a body of literature that the sheer quantity involved as well as its significance for the evolution of the discipline demand that it should be mentioned here. To give just two examples from a host of material varying in length from brief statements to voluminous treatments: introductions to particular programs for the outsider, often affirmative (e.g., Marinich 1977), but sometimes also critical (e.g., Prokof'ev 1976) are typical of this category.

4. Parallel Case Studies

An interesting special case arises when several parallel case studies of this kind exist—"parallel" either in the sense of referring to a common, transnationally accepted objective or in the sense of analogous investigations into relationships between objectives and policies in a set of countries.

In the field of TVE, one of the best known and most influential "transnationally accepted" sets of objectives is the *Revised Recommendations* of UNESCO (1974) which was already mentioned above. This statement of general objectives has been the basis of a number of "mission reports," for instance, which inquire into problems of implementing the *Recommendations* in certain member countries; thus, the list of reports published in 1983 includes investigations on Saudi Arabia, Lebanon, Syria, Libya, Angola, and Kuwait. But even earlier, UNESCO had developed other routines of parallel inquiry, for example, a set of *Guidelines for Preparing Country Reports*, to be followed by the participants of the International Conference on Technical and Vocational Education of 1976 held in Denver, Colorado (UNESCO 1976). The respective 23 standardized country reports, all devoted to developing countries, were then incorporated into a single comparative study, concerned with promoting the implementation of UNESCO's *Revised Recommendations*. Here, it was clearly the underlying common orientation of different countries towards a particular objective which motivated and facilitated systematic comparisons.

In other cases, there are immediate practical reasons for undertaking parallel country studies, even if there is no stated common objective for TVE, but only a need for exchange of information. Hence, the production of a series of country studies in TVE is typical for all kinds of intergovernmental organizations or their affiliate institutes: the European Centre for the Development of Vocational Training (CEDEFOP), for instance, set up by the European Community, has produced a number of publications describing the opportunity configuration for TVE in member countries. Parallel government reports, issued for a particular occasion such as those submitted for the 36th International Conference on Education in Geneva (1977) may also yield information of considerable interest for the comparativist in TVE, and material compiled primarily for national purposes, such as the series "Education Around the World," issued by the US Office of Education, may prove to be a valuable source for the student of international and comparative aspects of TVE, even if the scope of this series is more general.

5. Standardized Documentation and Reference Material

From what has been stated above about parallel case studies in TVE, it is evident that valid international comparisons between certain policies will be impossible

unless there is some standardization in the presentation of data on educational activities including relevant context information.

For obvious reasons, much credit for doing pioneer work in this respect has to go to internationally active organizations which are compiling and editing such documentations.

Taking UNESCO as an example again: UNESCO's Division of Science, Technical, and Vocational Education has issued a number of *Country Profiles of Technical and Vocational Training*, which follow a common format and which are based on common principles of systematization. UNESCO has also released statistical data on educational activities worldwide, including information on TVE, which was then compiled into a special world report for the decade beginning in 1970 (UNESCO 1983a).

Auxiliary references such as lists of relevant institutions and bibliographies should also be mentioned. Thus, UNESCO has produced a *World Directory of Selected Research and Teacher Training Institutions in the Field of Technical and Vocational Education* (UNESCO 1983b), and there are annotated bibliographies on TVE contained in the "Educational Documentation and Information" series issued by the International Bureau of Education (e.g., Pilain 1983).

6. Contrastive Comparisons

In many countries, there are Research and Development Centers on TVE, and evidently it is one of their major functions to collect, store, analyze, and comment upon information on alternatives to the dominant practices of that particular country. The respective publication lists typically contain titles such as "Current problems of vocational education in . . .," as exemplified several times in the Occasional Paper series of the National Center for Research in Vocational Education, Columbus, Ohio. Similarly, the Further Education Staff College, Blagdon, UK, has published a series under the title "Comparative Papers in Further Education," and the material produced by the Federal Republic of Germany's *Bundesinstitut für Berufsbildungsforschung* (Federal Institute of Research on Vocational Education BBF) in Berlin includes a special volume on "vocational education and employment: problems and solutions in East and West" (Bundesinstitut für Berufsbildungsforschung 1977).

The main difference between "parallel case studies" as discussed earlier and this kind of contrastive material lies in the fact that the latter is based—tacitly or explicitly—on quite rigid assumptions as to the homogeneity of context conditions. Whereas parallel case studies are restricted to descriptions of context, policies, and outcomes (usually with a strong historical element), the underlying argument in contrastive comparisons can be summarized as follows: "Context conditions in countries A and B are alike or at least sufficiently similar. Under these circumstances, policy X₁ produced

outcome Y_1 in country A. Therefore it is reasonable to expect that this relation will also hold for country B."

Now, if this reasoning proves to be sound, contrastive comparisons will provide the planners/administrators of TVE in country B with a considerable amount of knowledge concerning the outcomes emerging from available alternatives. It is obvious, however, that possible mitigating influences of context variables present the key difficulties within this type of reasoning. Therefore, this type of contrastive study usually occurs with reference to pairs or groups of countries believed to be subject to generally similar context conditions, for only in this case the implicitly accepted *ceteris paribus* clause is plausible to begin with. As a result, clusters of "typical contrasts" exist in the literature: comparisons between European countries (Lutz 1981, Titmus 1972), between European countries and the United States (Schaeffer 1980, Johnson 1978, von Moltke and Schneevoigt 1977) or within the Organization for Economic Co-operation and Development (OECD) group (OECD 1983) are typical examples. Similar studies exist for certain groups of developing countries, e.g., the Latin America region (Corvalan 1977, Corvalan-Vasquez 1981) or the group of territories in the Commonwealth Caribbean (Oxtoby 1978).

It does not happen very often that policy makers in one country commit themselves to investigations of policy options implemented in another country with the explicit aim of "learning" from that country. Far more common, at least in rich countries, is the tendency to conduct such investigations seemingly detached from practical needs, motivated out of curiosity only. Under conditions of prosperity, individuals and institutions can afford to restrict themselves to the claim of adding to knowledge, rather than pursuing practical solutions to imminent problems. If, however, political and/or economic difficulties—such as youth unemployment—prevail, the usual reluctance to consider seriously "foreign" policy alternatives in TVE is likely to diminish.

Examples of this phenomenon can be found in the British literature on technical and vocational education. The fact that high rates of youth unemployment were experienced earlier in the UK than in some other comparable countries is certainly not unrelated to the reasons which made the Further Education Staff College in Blagdon issue a series of "Studies in Vocational Education and Training in the Federal Republic of Germany" (e.g., Flower and Russell 1982, Levinson et al. 1983). Indeed, the 1984 conference in the series of Joint Studies in Public Policy, concerned with *Education and Economic Performance* (Worswick 1985), spent much time on comparisons with the Federal Republic of Germany, and one major contribution (Prais 1985) was explicitly entitled "What Can We Learn from the German System of Education and Vocational Training?"

It may be noted that at the same time, while British experts study the merits of the traditional "dual system" in the Federal Republic of Germany, German policy

makers are hastily implementing full-time vocational education schemes because the dual system alone no longer absorbs all applicants for an officially recognized and certified TVE. Also, there are new developments in the direction of reassessing the merits of nonformal or even informal modes of training. Moreover, there have been attempts to improve the dual system by bringing it closer to academic education, using comprehensive programs in Britain and Scandinavia as a model. This coincidence shows, to say the least, that changes in TVE, based on comparative studies, can be considered well-justified only if there is substantial knowledge on causal relationships between certain policies and their effects on the various outcome criteria, such as the attainment of certain skill profiles, the acquisition of particular attitudinal patterns, the improvement of employment ratios, and others. But even if there is agreement as to the relevant criterion, there may be problems in identifying correctly the cause(s) for a given observed difference. With respect to the present example of comparisons between England and Germany, for instance, there are no doubts as to the existing variation in the distribution of youth unemployment, but the respective causal hypotheses are highly controversial. While some authors argue that the effect can be attributed to different policies in TVE (namely the superiority of vocational training on a day or block release basis), others (e.g., Jones 1985) maintain that the underlying cause for this phenomenon is of an exclusively economic nature, namely based on different relative pay levels for young employees in the two countries.

It is essential, therefore, that this kind of causal knowledge should be developed. The two remaining sections of this article will show how comparative studies in TVE can contribute to this process.

7. Hypothesis Testing Across Countries

To use UNESCO's *Revised Recommendations Concerning Technical and Vocational Education* once again as an example: specialized comparisons, aimed at its specific constituent elements, such as the inclusion of technical and vocational elements in the general curriculum, clearly are appropriate and even necessary. Such an approach is attempted, for instance, in *Technology Education as Part of General Education: A Study Based on a Survey Conducted in 37 Countries* (UNESCO 1983c).

While this particular publication may be classified as an example of a collection of "parallel case studies," it demonstrates how progress can be made in the direction of theory-guided work; inasmuch as certain elements of the *Recommendations* are cast into the format of testable hypotheses, it becomes possible to develop—out of practical experience—"applicable" generalized knowledge.

Work of this type can take on a number of different forms, which may be exemplified here by various studies from the economics of education. Firstly, there are comparative, cross-national investigations on the

relationship between school and work (e.g., Caillods 1978, Dore et al. 1976), which could, of course, be followed by similar, but more specialized comparative studies on the impact of TVE on pay rates, employment, productivity, etc. There are, secondly, country-specific investigations on TVE with a great deal of international cross-references (e.g., Castro and Souza 1974, Puryear 1979, Lehmann and Verhine 1982) which, taken together, suggest certain generalizations. And finally, the technique of meta-analysis (Walberg and Haertel 1980) could be used to endorse generalizations from different country-specific studies.

8. Comprehensive Model Testing

Theoretically, the most advanced form of conducting comparative research in TVE would be that of including context variables in a statistical model and estimating policy-outcome effects with those context variables held constant. Variations in the economic background between countries (to mention only the most obviously needed control dimension) can be used to arrive at a comprehensive understanding of simultaneously effective and mutually dependent processes in TVE.

To the knowledge of the present author, such a comprehensive research project has not yet been attempted. Since it would require a great deal of cross-national standardization as well as the close cooperation of research teams in all the countries involved, there are very few institutions which could even think of initiating such a project. Experience in other areas of educational research suggests, however, that structural comparisons across countries, based on the testing of comprehensive models with national context/control variables is not impossible. Thus, the International Association for the Evaluation of Achievement (IEA) has successfully conducted a number of cross-national projects in the field of general education (e.g., the *Six Subject Survey*, see Walker 1976) and the parallel testing of general models across countries has certainly contributed important insights into the respective processes (Munck 1979). There does not seem much room for doubts that similar contributions would also be possible with respect to important issues in TVE. Having in mind the respective developments in other areas of educational research, it should not be too risky to predict that there will soon be examples of this type of fully developed comparisons in TVE as well.

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Comparative Studies in Teaching and Teacher Education

M. J. Dunkin

According to Gage (1963) research on teaching seeks answers to three main questions: (a) How do teachers behave?; (b) Why do they behave as they do?; and (c) What are the effects of their behaviour? Comparative research on teaching seeks to answer one or more of those questions within contexts defined by national boundaries. Thus, comparative research on the first question would investigate similarities and differences in behaviour among teachers from different countries. Comparative research on the second question would investigate whether influences upon teaching behaviour vary from one country to another, while comparative research on the third question would explore the possibility that the same teaching behaviour has different effects in different countries. Because it is essentially concerned with the influence of nationality upon teaching, its causes and its effects, comparative research on teaching is a special case of research which seeks to answer the second of Gage's three questions.

1. Types of Research

One type of research carried out to produce evidence of a comparative type about teaching is research that is usually not designed with that as a major purpose, but which produces data in one country that may be

compared with data yielded in another country, at a different time, and possibly by another researcher using similar instruments. Examples of this type of evidence are Flanders' studies (1970) in which the results of applying the Flanders' Interaction Analysis Categories in New Zealand and the United States are reported, and some of the research reviewed by Dunkin and Biddle (1974) and Dunkin (1981).

Flanders' efforts suggested that both New Zealand and United States teachers spent a higher proportion of time in lecturing than in any other of the categories of accepting praise, questioning, directing, or criticizing. Rarely did teachers of either country express in words acceptance of students' feelings and when students talked they were much more likely to be responding to teachers' initiations than initiating themselves. Subsequent research has produced similar findings in several other countries.

Dunkin and Biddle (1974) reviewed research on the cognitive level of discourse in classrooms in the United States, Australia, and New Zealand and found in each case that "lower level" operations such as describing, naming, and stating tended to predominate over more complex operations such as evaluating, conditional inferring, and comparing and contrasting. Dunkin and Biddle also reported that studies in Australia, New Zealand, and the United States had found similar occur-

rences of students' apparent inability to meet the logical demands of teachers' questions, especially for causal explanations, and reported that teachers tended to accept incongruent student responses as often as they accepted congruent ones.

Dunkin (1981) reviewed research on soliciting, structuring, responding, and reacting by both teachers and students in Australia, Sweden, the United States, and Papua New Guinea and found that in each case teachers did about 80 percent of structuring, soliciting, and reacting while students did most of the responding. Cycles or patterns involving these "moves" were also similar across the countries concerned. Dunkin (1981) also reported on research in the United States and Australia concerning vagueness and its effects. In both countries there were consistently reported results that teacher use of particular types of vague words and phrases was negatively correlated with student achievement.

Research such as that reviewed above is especially useful for developing hypotheses about comparative similarities and differences in teaching. Its main deficiency is that the studies involved were not conducted with samples of teachers and classrooms drawn so as to meet criteria of representativeness of the countries concerned. Thus, those samples cannot validly be used as bases for generalization about teaching in those countries.

A second type of comparative research on teaching is designed for the specific purpose of investigating national differences and incorporates within its conceptualization, sampling, and methodology the gathering of data from two or more countries contemporaneously. Nationality is an essential independent or predictor variable in the design of this research. Samples of teaching drawn for analysis in such research are required to be representative of teaching within the countries to be compared. This requirement almost always means that samples used are large and that such research is expensive. Consequently little such research exists.

Almost all of the comparative research on teaching drawn upon in this article was conducted under the auspices of the International Association for the Evaluation of Educational Achievement (IEA). During the 1960s and 1970s seven such studies were completed. All concerned much more than just teaching variables. The seven studies focused upon seven curriculum areas as follows: mathematics (Husén 1967); science (Comber and Keeves 1973); literature (Purves 1973); reading comprehension (Thorndike 1973); English as a foreign language (Lewis and Massad 1975); French as a foreign language (Carroll 1975); and civics (Torney et al. 1975). Two main types of data were gathered about the teachers involved in the seven studies. Firstly, information about their backgrounds and characteristics was sought with questions about their education, training, age, sex, and teaching experience. Secondly, data concerning their classroom practices, beliefs, and perceptions were gathered, either from the teachers

themselves, or from the students. All of the information gathered about teaching was obtained through questionnaires rather than through direct observation and the accuracy of such information in representing actual teaching practices is unknown. There were no teaching behaviour variables for which findings were reported across all seven studies and several such variables were unique to one study or another. In four of the studies the populations of students used were those aged 10 and 14 and those in the final year of secondary school. In the mathematics study (Husén 1967), students aged 13, students at the grade level at which 13-year-olds were normally found, and students in the final year of secondary schooling were involved. In the English as a foreign language (Lewis and Massad 1975) and French as a foreign language (Carroll 1975) studies only 14-year-old students and those in the final year of secondary schooling were used.

The only other research referred to in this article is that reported by Adams (1970). This was a study of teachers' beliefs, expectations, attitudes, and reported classroom practices in four English-speaking countries—Australia, England, New Zealand, and the United States.

2. National Differences in Teaching

Space does not permit a detailed account of the findings pertinent here from the IEA studies, consequently only the more obvious or perhaps interesting differences will be mentioned. In the mathematics study, an "opportunity to learn" estimate was found to vary across the 12 countries involved. For students of approximately 13 years of age the scores were highest in Israel, Japan, and England, lower in Scotland, France, the United States, and Finland, and much lower again for Sweden. For students in the final year of secondary school considerable increases were found in France, Finland, and Sweden with relative stability being apparent elsewhere.

There were also variations across countries in the use of "new mathematics" which was most used with the younger students by teachers in the United States, Australia, France, and England but quite rare in Japan, Sweden, Finland, and the Netherlands with that age group. Except for those last two countries there was a large increase in the use of "new mathematics" by the time students reached the end of schooling.

Other teaching variables explored in the IEA mathematics study were teachers' perceptions of freedom from restraints, on which there was little variation among countries, and students' descriptions of teaching as "open" and supportive of independent thinking and discovery as opposed to emphasizing rote learning and standard rules and procedures. Countries closest to the "open" style were Japan and Scotland for both younger and older students, while England and Finland appeared most "closed" for 13-year-olds. Teachers from the

Netherlands and Australia were most "closed" for students in the final year.

In the IEA science study (Comber and Keeves 1973) considerable variations were found among 19 countries in opportunity to learn. Ten-year-olds had the greatest opportunity in the United States, Italy, and Flemish-speaking Belgium and least opportunity in Germany, Hungary, and India. Fourteen-year-olds had greatest opportunity in Japan, Hungary, and New Zealand, but least opportunity in the Netherlands, India, and Chile. Those in the final year of secondary schooling had greatest opportunity to learn in Germany, Hungary, and French-speaking Belgium, and least in India, Flemish-speaking Belgium, and England.

Other variables in which variations across countries were found in the teaching of science were the time spent preparing science lessons, the time spent marking students' work, students' making their own observations and doing experiments themselves, and students' making up their own problems and designing experiments.

The amount of time teachers spent in lesson preparation was reported in four of the IEA studies for the final-year students, in three studies for 14-year-olds, and in two studies for 10-year-olds. In every country for which data were reported preparation time in a given subject increased from a lower age level to the next but most interesting was that, of the eight comparisons for which data about the Federal Republic of Germany were available, it ranked first in number of hours teachers spent in preparation in seven and second in the other. Other countries which consistently ranked high across age groups and subjects on this variable were Sweden and Belgium. At the other end of the scale, the Netherlands consistently ranked low across age levels and subjects, while England and India consistently ranked low for preparation in science.

There was also a general increase from 14-year-olds to older students in the reported amount of time per week teachers spent marking students' work, though the increase was quite small. On this variable, however, teachers from Thailand consistently ranked first for science and English as a foreign language for 14-year-olds and second for science and first for English as a foreign language for students in their final year. Teachers from the Netherlands were also consistently high on this variable, especially in teaching French as a foreign language. At the other end of the scale, teachers from Sweden and Scotland consistently ranked low in the amount of time spent marking students' work.

So far, little has been reported about the use of different teaching methods in the IEA studies. Indeed, in only two of those studies were comprehensive reports concerning variations by country in teaching methods supplied. These were the studies of English taught as a foreign language and of civic education.

Huge variations across countries in the use of materials and approaches were reported in the former

study. For example, for 14-year-olds in the Netherlands only 1.1 percent of teachers reported using textbooks whereas in Sweden the percentage was 98.5. In Finland only 1.9 percent used programmed instruction whereas in the Netherlands 86.9 percent did so. The use of teacher-made essay tests ranged from about 4 percent in Sweden to almost 98 percent in Israel. The apparent aversion to textbooks in the Netherlands was present at the older age level and also for all three student populations in civic education. In contrast, the Swedes reported high usage of textbooks across grade levels and subjects. The Netherlands was distinctive in other respects, most notably in the apparent preference for individualized approaches to teaching both subjects, especially at the 14 and older age levels. Thus, it is possible through careful analysis of these data to discern profiles for countries that perhaps indicate philosophies of education. Traditionalism is apparent in civics in Ireland, for example, where high usage of textbooks, lectures, questioning, and discussion but low use of individualization, small groups, field trips, and student reports are apparent. Eclecticism is to be suspected in the United States where middle of the range usage was reported for almost every technique in civics. The conclusion reached on the basis of the data gathered regarding methods of teaching French as a foreign language was that "most teachers, in all countries, tend to be eclectic in their methods of teaching grammar in foreign languages, reporting that they use 'a combination of inductive and deductive methods'" (Carroll 1975 p. 191).

One of the most interesting teaching variables explored in the IEA foreign language studies was teachers' perceptions of their own competence in the foreign languages. Thai teachers of English were least confident of all, while teachers from most European countries were highly confident of their English language abilities. Concerning the teaching of French as a foreign language, teachers from New Zealand and Chile tended to be less confident than those from the other countries surveyed, namely England, the Netherlands, Romania, Scotland, Sweden, and the United States.

The study reported by Adams (1970) was part of a large comparative investigation of teacher roles in Australia, England and Wales (referred to by Adams as Britain), New Zealand, and the United States. Over 12,000 teachers in the four countries were involved and each national sample was drawn with great care to measure representativeness. Adams postulated seven dimensions of teaching as follows: (a) content orientation, (b) cognitive orientation, (c) interaction mode, (d) organizational differentiation, (e) control source, (f) control mode, and (g) motivational mode. Each dimension was thought to consist of three facets. For example, content orientation comprised the subject matter of the lesson, personal relationships with students and among them, and disciplining and controlling students, while control source comprised rules established by the teacher, rules established by both

teacher and students, and rules established by students themselves. A questionnaire containing items based on this conceptualization of teaching asked the teachers to indicate the amount of emphasis given to each in their teaching.

Adams found that in some respects the four countries were more or less in agreement, that in others there were agreements and disagreements, and that in a third set one country or another stood out from the others on particular items. The four countries were in agreement in giving emphasis to understanding first, to practice and performance second, and to acquisition of facts third. All gave top priority to communication between teacher and students, with free communication among all members next, and exclusive teacher communications last. Prescriptive rules were emphasized most in controlling students, with proscriptive rules next and permissiveness last. Agreement was not perfect but was certainly the trend for a second set of practices. Thus, all four emphasized punishment least, and while Australia and New Zealand placed rewards and intrinsic motivation in that order, Britain and the United States gave more emphasis to intrinsic motivation.

Further analysis of the detailed findings suggested that Britain and the United States, on the one hand, and Australia and New Zealand, on the other, were more alike than might have been anticipated. Britain and the United States were not significantly different in the emphasis given to subject matter, discipline, discussions, rules made by teachers and students together, rewards, intrinsic motivation, and punishment. Australia and New Zealand were not significantly different in their emphasis on practice and performance, understanding, lecturing by the teacher, discussions, proscriptive rules, intrinsic motivation, and punishment.

No two countries were alike when it came to emphasis on interpersonal relations (Britain, New Zealand, United States, Australia, in that order), teacher-made rules (Britain, Australia, New Zealand, United States), and permissiveness (United States, New Zealand, Britain, Australia). Each country was unique in the sense that it was highest or lowest in the degree of emphasis given to some practices. Australia was highest in emphasis on prescriptive rules and lowest in emphasis on interpersonal relations, discussions, and permissiveness. Britain was highest in emphasis on personal relationships, facts, questions and answers, differentiated activities for groups, rules made by the teacher, and proscriptive rules. Britain was lowest on undifferentiated activity for the whole class, cooperatively made rules, and rules made by students alone. New Zealand was highest only in the emphasis placed on rewards. It was lowest in emphasis on subject matter, and on discipline and control. The United States was exclusively high in emphasis on lectures and permissiveness. It was exclusively low in emphasis on practice and performance, understanding, questions and answers, and teacher-made rules.

In his attempt to typify each country on the basis of these findings, Adams suggested that British teachers were more oriented towards learning, that New Zealanders displayed concern for the student as a person, that Australian patterns were somewhat austere, and that Americans were unconcerned with achievement and discipline.

3. Explanations for National Differences in Teaching

At a superficial level it might be said that the explanation of differences revealed by comparative research lies in the design of that research itself—that teachers in one country are different from teachers in another country because they come from different countries. More satisfying explanations for national differences in teaching are likely to emerge from attempts to relate national differences in other areas to those found in teaching. For example, systematic variations among countries in methods of recruiting and educating teachers, in the organization and administration of school systems, in economic circumstances, in religious beliefs, in language types, and in many other factors might be more valuable in understanding why teaching varies across countries than knowledge of teacher nationality.

The IEA studies all included information about teachers' background characteristics such as parental occupation, length of training, where trained, sex, age, and so on, but none of the studies drew upon such data in order to explain differences in teaching practices. The mathematics study (Husén 1967) included some consideration of determinants of classroom practices. Factors hypothesized to influence teacher performance were teacher perception of relative emphasis on different topics in the curriculum, perception of freedom or restraint in curriculum and instruction, recent inservice training, and amount and type of preservice training. However, relationships between these and such variables as opportunity to learn and use of "new mathematics" were not reported. It was assumed that their influence would be apparent in direct association with student achievement. In the case of teachers' perceptions of freedom from restraint this assumption was tested and unexpected results emerged. For both the 13-year-olds and students in the final year of secondary schooling, in those countries where teachers perceived more freedom students tended to achieve less well in mathematics (correlation coefficients were -0.45 and -0.50 , respectively). Why might these results be so? Presumably, the explanations are to be found in the ways in which teachers' perceptions of freedom from restraints were manifested in the classroom. One might wonder whether students' opportunities to learn the types of mathematical problems and exercises included in standardized tests of mathematics achievement would be affected by teachers' freedom from restraints that are often imposed under conditions of uniform curricula

and reflected in standardized testing programmes. Further analysis of the results included in the report of the mathematics study (Husén 1967) indicates that in those countries where teachers' perceptions of freedom were greater, students' opportunities to learn items on the IEA achievement test tended to be lower, at both age levels (Spearman rank order correlation coefficient for 13-year-olds is -0.37 and for final-year students is -0.35). As is reported in the next section of this article, opportunity to learn was strongly associated with between-country achievement in mathematics. It could well be, therefore, that opportunity to learn is a key mediating variable affected by teachers' perceptions of freedom and itself, in turn, affecting student achievement.

In the other IEA studies potential relationships between background variables and teaching variables were not reported, and secondary analyses of the data gathered would probably produce interesting results. To date empirical investigation of the determinants of national differences in teaching practices appears to have been neglected and so explanations for those differences remain intuitive, speculative, and untested scientifically.

4. The Effects of National Differences in Teaching

The most obvious procedure for investigating international relationships between differences in teaching and differences in educational outcomes such as student achievement is to compare distributions of national mean scores on the former with distributions of national mean scores on the latter to see if those nations which score higher on one tend to score higher on the other. However, the results of such comparisons have seldom been reported even in the IEA studies. Instead, those studies emphasized within-country relationships with student achievement and then compared the within-country correlations.

The mathematics study (Husén 1967) and the science study (Comber and Keeves 1973) did, however, report both types of findings. In the former, for both groups of 13-year-olds it was found that student achievement was superior in every country and also between countries for students who had experienced "new mathematics". The differences were especially large in England and Scotland, but were tiny in Finland and Japan. In the same study, for all three populations of students there was a large between-country correlation between opportunity to learn and mathematics achievement (0.64 and 0.73 for the younger students and 0.80 for the final-year students). When the relationship was explored within countries, large differences were found. For the younger students large to moderate positive relationships were found in Scotland (0.60), England (0.55), and France (0.27). For the older students moderate positive relationships were found in Japan (0.44), Australia (0.40), and the United States (0.29). These variations were thought to depend upon the amount of

variation in the teachers' ratings of opportunity to learn in those countries. Where curricula are more centralized and presumably more uniform there would be less variance in opportunity to learn and, thus, less possibility of sizable correlations with other variables including achievement.

In the IEA science education study (Comber and Keeves 1973) the between-country relationship between opportunity to learn and student achievement was plotted for each of the three student groups. There appeared to be little or no relationship for 10-year-olds, a strong positive relationship for 14-year-olds, and for the final-year students two positive relationships, one for the United States and the majority of Western European countries and another for the four developed Commonwealth countries, Australia, England, New Zealand, and Scotland whose mean achievement scores were somewhat higher than those for the first set of countries. The size of the within-country correlation coefficients for opportunity to learn and science achievement varied from country to country and from age group to age group. For 10-year-olds the between-school correlations were not reported, but the between-student correlation was highest in India (0.23) and lowest in Japan (0.00). For 14-year-olds, the between-school correlation was largest in Scotland (0.58), England (0.45), and Chile (0.44) and smallest in Finland (0.00) and Japan (-0.02), with a small negative correlation appearing for Sweden (-0.11). For the oldest age group the between-school correlations were highest in England (0.58) and the Netherlands (0.50) and lowest in Australia (0.24) and Finland (0.22).

Other teaching variables for which correlations with achievement on a within-country basis were reported in several of the IEA studies included the use of audiovisual materials, textbooks, field trips, individual tutoring, within-class grouping, and drill materials, time spent in preparation of lessons and in marking students' work. In general the correlations involving these variables were small and few trends emerged.

In the two studies of foreign language teaching (Lewis and Massad 1975, Carroll 1975) teachers' ratings of their own competence in the foreign language concerned were investigated. Neither study reported results in such a way that simple cross-national comparisons of relationships with student outcome variables were permitted. By inference it appears that these variables had very small and inconsistent effects on student achievement in the study of the teaching of English as a foreign language (Lewis and Massad 1975). However, they appear to have been of significance in the study of the teaching of French as a foreign language (Carroll 1975) in which the following summary was given:

The average teacher in English speaking countries rates his skill just a little above the midpoint of the scale, 2. As compared with students of teachers who rate themselves at a value of 2, students who are fortunate enough to have teachers who rate themselves at a value of 3 have 1.8825 score points advantage in Reading and 4.1574 score points

advantage in Listening. In Listening, this is an advantage that is nearly enough to save a year of instruction, according to the results shown here. Teacher competence, especially in speaking skills, apparently makes a substantial difference in student progress. (p. 272)

The two foreign language studies also used the extent to which the new language was spoken, listened to, written, and read in the classroom. Lewis and Massad (1975) reported that results involving those variables were inconsistent from country to country, but concluded that speaking, writing, and reading for pleasure in English in the classroom were conducive to higher achievement in English reading. Carroll (1975) concluded that "students placed in a teaching situation where they use French in the classroom a substantial amount of time, and rarely the mother tongue, have a decided advantage over students in classrooms where the opposite situation obtains" (p. 272).

In the IEA study of civic education (Torney et al. 1975), two classroom variables emerged as particularly significant in relation to student outcomes when those relationships were examined country by country. They were the encouragement of independence of opinion in the classroom and the practice of patriotic rituals such as flag raising, singing national anthems, and swearing oaths of allegiance. In every one of the 10 participating countries, (Italy, Federal Republic of Germany, Finland, New Zealand, Ireland, United States, Netherlands, Sweden, Iran and Israel), the encouragement of independent opinions made a positive contribution to 14-year-old students' cognitive achievement in civic education. This result was repeated for 10-year-olds, but only three countries (Italy, Netherlands, and Federal Republic of Germany) were involved at that age level. In relation to the attitudinal outcome of anti-authoritarianism, the encouragement of independence of opinion was again found to be a positive contributor for 14-year-olds in every country except Finland and for final-year students in five of seven countries, the exceptions being Ireland and Finland. When the participation in political discussion was the criterion outcome, the encouragement of independence of opinion in the classroom yielded positive results in every country for both 14-year-old and final-year students.

The practice of patriotic rituals appeared to have negative effects upon cognitive achievement in civic education in all but one country (Italy) for 14-year-olds and in every country for final-year students. Such practices also appeared conducive to authoritarianism in 14-year-olds and final-year students in every country. Interestingly enough, they made a positive contribution to participation in political discussion in almost every country for both those student populations.

The civic education study employed a host of other teaching variables, including emphasis on nonpolitical aspects of citizenship, use of lectures, use of printed drill, use of standardized tests, projects, term papers, audiovisual media, ability grouping, lesson preparation, readiness to introduce sensitive issues, and stress on

facts. These variables had either inconsistent, unclear, or negligible effects on the outcome variables concerned.

5. Conclusions

Comparative studies of teaching, while few in number, have contributed some information about variations in teaching from country to country. They have also provided a little information about the extent to which teaching and learning relationships are generalizable across cultures, age groups, and subject areas. As argued below there is much more of this type of information to be desired.

The greatest deficiency of comparative research on teaching has been in the explanation of differences among countries both in the occurrence of particular teaching practices and in their effects. This deficiency seems to have been caused mainly by adherence to a paradigm for research on teaching which ignores the likelihood that teacher background variables, such as formative experiences, influence student learning mainly as they are mediated through events that occur as teachers and students come together in educational contexts such as classrooms. Teacher and student background variables have been seen only as direct predictors to student outcomes and so their potential as sources of explanation of differences in classroom events has been ignored.

Another deficiency in this research is more excusable, given the costs of avoiding it. The best way of measuring differences in teaching variables is not through paper-and-pencil instruments used in the studies reviewed here, but through observation of teaching as it occurs.

Comparative research on teaching will be especially beneficial if it seeks to establish the extent to which generalizations about teaching and learning generated in one national or cultural setting are valid in others. Textbooks and other materials as well as training practices developed for use in teacher education tend to reflect the results of research in developed Western countries. These are often adopted for use in other cultures without evidence of their validity in these different contexts. Under these meagre conditions of knowledge there is a strong risk that the imported materials and practices are inferior to those which might be designed on the basis of locally derived research evidence.

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Comparative Studies in Higher Education

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The comparative study of higher education, while a new development in the social sciences, has produced a considerable body of literature and is recognized as a relevant aspect of the study of postsecondary education. Comparative insights can provide a broad perspective, which is valuable even in purely national inquiries. The experiences, both positive and negative, of other countries and other academic systems can inform policy making and scholarly research. While it is seldom possible to transfer academic models directly from nation to nation (although there have been many attempts to do so), the comparative perspective can inform decision making. Academic institutions have common historical roots and there is, in the contemporary world, considerable international contact among universities.

There is no widely accepted discipline of comparative higher education with a specific methodology. Indeed, the term "comparative" is often misused in that it is applied to the study of educational phenomena in at least one country by a national of a different country. Relatively few studies are truly comparative in that they consider several nations in the context of an investigation of a particular issue or set of issues. This article, therefore, is largely concerned with the specifically comparative (more than one nation) aspects of the field of higher education. Most scholars approach the field from the methodological perspective of their own discipline, be it sociology, economics, or educational psychology. Thus, in most cases comparative higher education is more accurately the comparative sociology of higher education or the comparative economics of higher education. This orientation toward a specific academic discipline is probably necessary, given the complexity of the study of postsecondary education, but it does limit the scope of the writings in the field.

Comparative higher education is related to the field of comparative education at large, which is older (several of its scholarly journals are more than 25 years old) and has a wider circle of practitioners. Comparative education also does not have a fully established methodology—although efforts have been made to develop one, and the field relies on its parent social sciences disciplines for direction. Most scholars in both fields agree that it is necessary to define a topic for con-

sideration carefully and to apply clearly articulated methodological research strategies. The data employed are inevitably complex and often not completely comparable. The intrinsic problems of funding and implementing research on comparative higher education are considerable and account for the relatively small amount of truly comparative research.

Comparative higher education emerged largely from the practical concerns of educators, government officials, and others concerned with postsecondary education. The rapid growth that characterized higher education in almost all countries following the Second World War led to a consideration of how to deal constructively with growth. Policy makers looked to other countries for hints as to how to expand universities, how to deal with increased numbers of students, how to administer systems of higher education, and, in general, how to reform institutions under considerable stress. Later, in the 1960s, student unrest led to further consideration of how to cope with activism by looking abroad for insights. Overseas models of academic governance, of faculty recruitment, and of accountability were often considered in the heated debates that were commonplace.

Comparative higher education is undertaken by a large variety of institutions and individuals. Of particular importance are the international and regional organizations which have funded studies and which collect data on a regular basis. UNESCO and its various agencies, such as the International Institute for Educational Planning (IIEP) and the European Cultural Foundation Institute of Education, the Organisation for Economic Co-operation and Development (OECD) and particularly its Center for Educational Research and Innovation (CERI), the Council of Europe, the Regional Institute for Higher Education and Development in Singapore, the International Association of Universities, and other organizations have been instrumental in collecting data, sponsoring and disseminating research, and creating a community of scholars and practitioners concerned with the field. Several journals have been active in publishing research in comparative higher education. *Higher Education*, published in the Netherlands and edited by an international board, is devoted entirely

to the topic. The *European Journal of Education*, sponsored by the Institute of Education in Paris, has also been active. Journals such as *Comparative Education Review*, *Vergleichende Pädagogik*, and *Comparative Education* provide regular outlets for scholarship in the field. There is a modest but strong infrastructure of organizations and journals which serve the field with data, analysis, and publications.

In addition to these widely available sources, there is a large body of research, produced by national agencies and individual scholars which is less widely publicized and is therefore much more difficult to obtain. For example, the National Board of Universities and Colleges in Sweden and the Carnegie Council on Policy Studies in Higher Education in the United States have been actively engaged in research on higher education in their own countries and have also taken a modest interest in the comparative dimension. There is inevitably substantial difficulty in obtaining access to a vast amount of useful data—and analysis—relating to single countries which do not appear in bibliographies.

It is possible to identify a number of themes that have been considered in comparative higher education. The following discussion identifies some of these themes and summarizes some basic perspectives.

1. Historical Development of Higher Education and the Transfer of Academic Models

With few exceptions (such as the Al-Azhar in Cairo) modern universities are Western in origin and basic design. Most stem from the medieval Paris model. Based on this model, such later institutions as Oxford and Cambridge in England, the nineteenth-century German university, and the American private university, such as Harvard, Yale, and Princeton, have all influenced higher education throughout the world.

In many instances, this widespread transfer of academic models from one country to another was brought about by colonialism—the impact of British academic institutions in the United States was due at first to colonial domination. The contemporary importance of British and French academic models in much of Africa and Asia is also due to colonialism. In other cases, newly emerging nations consciously chose academic models at the end of the nineteenth century. The German model had considerable influence in the United States at the same time. More recently, the American “land grant” model has been influential in India, Latin America, and parts of Africa. Much of Eastern Europe utilized the German academic model, although there are some French influences as well. Academic models were seldom transferred without alteration and it is significant how some aspects of the model were accepted whilst others were rejected in particular national settings. It is clear, however, that higher education is strongly influenced by cross-national currents. If there is any international community of scholarship, it is in

large part based on the common historical origins of the world's universities.

2. Curriculum

A comparative study of the curriculum in higher education will also indicate many common elements. The classical and medieval liberal arts curricula retain some influence in many countries today, although, in general, universities have added training functions in a range of professional and applied fields in addition to those that have traditionally existed in law, medicine, and the church. Stemming from common roots, the contemporary academic curriculum differs substantially from country to country, reflecting differing roles for postsecondary education. Clearly, the curriculum is at the very heart of the academic enterprise and deserves careful attention. Its historical development and contemporary status can tell us much about the nature and purposes of higher education.

3. Students

The student unrest of the 1960s, which occurred in many countries, was a major stimulus to comparative higher education, as administrators and government officials sought to understand the causes for unrest and the means to deal with it. There is general agreement that student activism is largely a national phenomenon, stimulated by political and sometimes academic conditions within a particular country. Students in the industrialized nations have from time to time been politically active, but they have never succeeded in causing the downfall of a government (although they came fairly close to doing so in France in 1968). In the Third World, students have regularly overthrown governments in countries such as Thailand, the Republic of Korea, Ecuador, and Indonesia. Because students constitute one of the few politically articulate and easily mobilized groups, they are capable of dramatic political success. Despite a large quantum of literature on student activism and some efforts to develop comparative explanations, there is no generally accepted “theory” to explain student unrest, perhaps because specific national circumstances play such an important role. There has also been a good deal of interest in the comparative study of social class, student attitudes towards both social and educational questions, and the like. In general, students come from the higher social-class groups in their societies, even in academic systems which permit wider access. Students generally have more liberal and radical attitudes on social and life-style issues.

4. Expansion

The most important characteristic of postwar higher education is expansion. Enrollments in almost every country grew dramatically, and along with them insti-

tutional adjustments of all kinds were made. As Martin Trow (1972) has stated, academic systems moved from elite (as in most of Europe) to mass and then finally toward universal access. This means that access to higher education was broadened from a very small segment of the elite to much wider social-class groups. As universities throughout the world searched for ways to deal constructively with the problems engendered by expansion, they began to look abroad for possible models. The United States, which already had a "mass" higher education system with significant access provided to the middle class and to segments of the working class, offered some useful lessons to other countries. The American academic department, which provided considerably more flexibility and participation than the more rigid European "chair" system, was adapted in some nations. Many universities added layers of administration in order to serve the expanded needs of ever-increasing numbers. Multitiered postsecondary educational systems were, to some extent, copied from the American system of different levels of a roughly articulated higher education apparatus. The "new realities" of the 1980s have meant that expansion has slowed, or even ceased, in most industrialized nations, although it continues in many Third World nations. Thus, the problems of the next decade will probably be somewhat different.

5. Summary

These examples are indicative of the kinds of issue which comparative higher education can help to illuminate. It is clear that while realities differ significantly from country to country, reflecting different economic systems, levels of wealth, philosophies of higher education, and technological development, there are nevertheless many similarities among academic systems. Comparative higher education points out both the similarities and the differences in an effort to illuminate national problems and issues from a broader perspective. An understanding of the differences between, for example, the academic realities of the Third World, with massive pressures for expansion and for participation in national development and with very limited resources, and the industrialized nations, with quite different but nevertheless perplexing problems of their own, indicates the scope of comparative higher education. By understanding these differences it may be possible to deal more effectively with the inevitably unequal relationships between these countries. Comparative higher edu-

cation, therefore, is not an academic discipline or even a subfield at the present time. It is, rather, a way of thinking about postsecondary education that will broaden perspectives and point to the experiences of other countries. Postsecondary education is uniquely well-suited to comparative analysis because of common historical roots and a significant level of cross-national interaction.

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Comparative Studies in Adult and Lifelong Education

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Little attention has been devoted in comparative education to the marginal area of adult education. Thus, as educational opportunities for adults became of global

significance after the Second World War, comparative studies in this field developed independently, not as a subsection of, but as a supplement to, comparative

education. In this article the development, purposes, topics of study, problems, and issues of comparative adult education are considered, together with the added dimensions of lifelong and recurrent education.

1. Development

Quite early in its history adult education acquired an international dimension through such organizations as the Young Men's Christian Association (YMCA) and, in 1925, the World Organization for Adult Education, which attracted into membership most of the countries in which the education of adults was established on any substantial scale. It did not survive the Second World War, but after 1945 its work was taken up by a number of world and regional organizations.

Perhaps because they were created just as adult education began its expansion worldwide, several United Nations agencies, the World Bank, and the Organisation for Economic Co-operation and Development (OECD), among other bodies, became involved in studies of the educational needs and realizations of adults. Several UNESCO regional centres have been particularly active in this field. Also at a regional level the Council of Europe, the European Community, and the Organization of American States have played a similar role.

A number of nongovernmental organizations have been formed. These include the Asian and South Pacific Bureau of Adult Education (ASPBAE), the African Adult Education Association (AAEA), and the European Bureau of Adult Education (EBAE) and, since 1973, a world association, the International Council of Adult Education (ICAE), all a product of interest in international development and all stimulating it through their meetings and publications.

Their work has greatly helped to create a demand for more effective ways of comparing adult education activities in different countries. The First International Conference on the subject was held at Exeter, New Hampshire, in 1966 on the initiative of the International Congress of University Adult Education (Liveright and Haygood 1968). Over the years since then efforts have continued slowly to build it up as a field of systematic study. Mainly in North America and Europe scholars have been feeling their way towards real comparison through rule of thumb studies of practice, while others have been trying to devise a framework of principles, purposes, and methods appropriate to the peculiar circumstances of adult education.

It may be asked whether in all this they have not been re-inventing the wheel, whether they should not have learned their lessons from the work already done in comparative education. This has indeed occurred (Bennett et al. 1975), but just as students of other aspects of adult education have been wary of too slavishly following the ideas of educational science, so have some comparativists and for similar reasons. Comparative education concerns itself for the most part with

a narrower field than its name implies, concentrating its attention on school and higher education systems; comparative adult education, it is therefore argued, does not cast a spotlight on one part *within* comparative education, but it shines it on a new part of the field. This new area has features it does not share with initial education, so that a critical assessment of the applicability of comparative education's experience to comparative adult education is needed.

2. Purposes of Comparative Adult Education

Other things being equal the purposes of comparative adult education ought to be broadly similar to those of comparative education. Since they are not equal, expectations of achievement in the short or medium term are rather more limited. The Exeter Conference suggested areas for further study, for example, data gathering about activities; the development of a taxonomy of adult education structures; the definition of terms and concepts; cultural, political, and economic impacts on the nature and organization of adult education. These would pave the way for comparison rather than be topics of comparison (Liveright and Haygood 1968). Kidd identified a modest set of goals:

- to become better informed about the educational system for adults of other countries;
- to become better informed about the ways in which people in other cultures have carried out certain social functions by means of education;
- to become better informed about the historical roots of certain activities and thus to develop criteria for assessing developments and testing possible outcomes;
- to better understand the educational forms and systems operating in one's own country;
- to satisfy an interest in how other human beings live and learn;
- to better understand oneself;
- to reveal how one's cultural biases and personal attributes affect one's judgments about possible ways of carrying on learning transactions. (Bennett et al. 1975 p. 10)

It appears that he considered comparative studies principally as illuminating the understanding of practitioners in the field. There is no reference to their application as a direct aid to decision making, which now seems the principal concern of comparative education. In fact most people now engaged in comparative adult education, while they would not repudiate Kidd, would agree with King that all comparative studies today are intended to aid decisions (King 1967). There is, however, considerable awareness that the means are not yet equal to the task, with the consequence that, although realities of funding and the immediacy of policy making call for the application to specific issues of such means as we have, some scholars believe that the emphasis should lie on more long term and theoretical studies, designed to perfect the tools of enquiry and fundamental understanding of the education of adults and the context in which these specific issues arise.

3. Subjects of International and Comparative Study

The growth of adult education and the development of identifiable national patterns of provision as worldwide phenomena only belong to the period since the Second World War. Hence, of necessity, there has been a continuing flow of basic single-nation studies. Many are purely factual descriptions of what is done and how it is organized, notably those which are sponsored or published by government agencies. The Scandinavian countries have brought out a number of these accounts, individually or in collaboration. More attempts at analysis and judgment are to be found in the work of private scholars. For the most part they write about their own countries, but foreigners have offered a new perspective and perception to single-nation studies (Titmus 1967).

Since 1977 the European Centre for Leisure and Education in Prague has, with UNESCO's financial support, commissioned 12 studies of individual European states. They are intended to provide the basis for comparative investigation of the structures and organization of adult education in Europe (European Centre for Leisure and Education 1977-84). This project, still incomplete, constitutes the most ambitious yet in comparative adult education.

Intergovernmental organizations have called for reports on adult education provision from their member states and have then commissioned general regional or global overviews based on the material supplied. As an example, the Council of Europe published *Today and Tomorrow in European Adult Education*, which covered recent developments, current problems and possible progress in its member states (Simpson 1972). As part of the preparations for its periodic world conferences on adult education UNESCO has several times commissioned global reviews, which have constituted the best factual and analytical accounts of adult education's worldwide growth (Lowe 1975).

The overview or cross-national study is a standard product of initiatives in specific aspects of adult education. This is in large degree because the initiatives are intended to transcend national boundaries and the concern of the studies has been to identify common features of policy, practice, and their determinants over the whole range of societies covered, rather than to distinguish differences between individual nations, since the common features promise to be more valuable in that they may apply to future contexts.

The efforts to eradicate illiteracy in the world, to which a number of UNESCO agencies, the World Bank, and other international and national agencies have devoted themselves, have been adult education's largest concern and still remain so. They have involved workers indigenous to the countries in which action has been taken as well as outside experts; they have covered almost all the developing world; they have provided examples, otherwise rarely known in adult education, of measurable inputs, of similar kinds, applied simul-

taneously to a number of different national situations, thus creating cases more than usually favourable to comparative study. Indeed out of all this activity have come many reports, of campaigns in individual countries, in groups of countries, and of world studies (UNESCO 1976).

Nonformal education and the development needs of the Third World have also been the focus of international initiatives and of comparative studies on a large scale (Ahmed and Coombs 1975). Sociocultural animation, closely related to nonformal education, but without the development dimension, was for several years the subject of a Council of Europe project, which produced a number of papers from member countries.

Where topics in adult education have been subjected to extended international or crossnational study, it has usually been because they have captured the attention of some international organization, governmental or nongovernmental, and that they have some immediate policy significance. The OECD has sponsored studies of learning opportunities for adults, of adult participation in study, and of recurrent education. In addition to literacy, UNESCO has encouraged work on lifelong education and adult education terminology (Titmus et al. 1979). The European Bureau of Adult Education has made a speciality of collating and reviewing legislation (European Bureau of Adult Education 1985) and terminology (European Bureau of Adult Education 1980).

Some topics have, however, generated their own head of steam and have stimulated a wide range of studies from many different sources. Women's education is a theme to which many articles and several books have been devoted (European Centre for the Development of Vocational Training 1982). The literature of correspondence and distance education overlaps with accounts of the use of mass media in adult education and of open learning systems (Harry et al. 1982). The experience of other countries in the training of adult educators is seen to be of central importance as the professionalization of the field has developed and numerous descriptive accounts have been given (Kulich 1977), some devoted to the training of specialists such as vocational educators (Théry 1984).

As the drive to achieve the right of adults leave from work for educational purposes without loss of earnings gained momentum, governments, confronted with the prospect of having to make policy decisions on the subject, commissioned, singly or through intergovernmental organizations, a number of studies of paid educational leave practice. For example, the British sponsored an enquiry into France, the Federal Republic of Germany, and Sweden (Charnley 1975); the OECD undertook several pieces of work; and a review of European experience was specifically undertaken for American consumption (von Moltke and Schneevoigt 1977).

Paid educational leave is closely related to adult vocational education, to which more international attention has been directed than to any aspect of adult

education except, perhaps, literacy. For example, UNESCO has published a series of reports on developing countries, including Botswana, Egypt, Argentina, and the Republic of Korea. A number of regional overviews have appeared (Corvalan 1977). The European Centre for the Development of Vocational Training (CEDEFOP), set up by the European Communities, has been particularly active in sponsoring single-nation studies and regional syntheses on youth unemployment and vocational training, equal opportunities for women (CEDEFOP 1982), the training of educators (Théry 1984), and migrant workers.

4. *Comparative Studies in Lifelong and Recurrent Education*

Comparative studies, like other studies in adult education, increasingly take a lifelong perspective, without for the most part addressing their topics explicitly within the concept of lifelong education. The distinction between youth and continuing education is rather more blurred in developing countries and studies of literacy campaigns, nonformal education, and integrated rural development are necessarily conducted in a cradle to grave framework. In advanced countries adult or continuing education is still perceived and studied as a distinct sector. On the other hand there is a tendency to include lifelong or recurrent education in titles of publications, with only minimal attention to the wider concepts.

However, for a number of years the Council of Europe conducted an inquiry into the extent to which permanent education or lifelong education was being achieved in its member states and followed it up with several experimental projects in permanent education (Schwartz et al. 1977). The UNESCO Institute for Education, Hamburg, has made for itself a corner in lifelong education, but its work is largely conceptual and general and its cases are mainly school oriented. The Organisation for Economic Co-operation and Development (OECD) was principally responsible for launching the concept of recurrent education internationally. The idea, the alternation of periods of education with periods of work or other activity throughout life, has attracted comparative study because it is more concrete than that of lifelong education and is already to some degree realized in adult vocational education and is linked closely to issues of paid educational leave (Schuller and Megarry 1979).

5. *Problems and Issues Confronting Comparative Adult Education*

From this selective account of subjects and publications it is easy to derive an exaggerated impression of comparative adult education's achievements. It is still largely at the stage of descriptive surveys, often incomplete and impressionistic, if not anecdotal. Analysis and expla-

nation of phenomena in contextual terms are frequently weak. Comparison, in the sense of identifying differences and similarities between phenomena, is rare. Many so-called comparative studies consist of juxtapositions rather than comparisons. There are very few examples of explanatory comparison (Titmus 1981).

Students of comparative adult education have been conscious of their imperfections, perhaps excessively so. Kidd exhorted those in comparative adult education to pay more attention to developing systematic methods of enquiry (Kidd 1981) and in recent years his advice has been taken up (Titmus 1985). The ECLE comparative research into the structures and organization of adult education in Europe has been as occupied in devising an appropriate methodology and a framework as in conducting single-nation studies (Maydl et al. 1983).

But the problems do not lie so much in the techniques of enquiry as in the state of adult education itself. To compare phenomena in it is particularly difficult, because of the breadth and diversity of what is comprehended within the term "adult education", of the variations in meaning given to it from country to country, if indeed a concept of it as a distinctive process or system exists at all.

It is rich but not precise in its terminology and the connotations of its terms have been very culturally specific. Some progress is, however, being made towards international understanding by the definition of its vocabulary and the compilation of international glossaries. That of the EBAAE, first produced in English, French, and German (EBAAE 1980), has now fathered supplements in Italian and Dutch, the UNESCO one has grown from English, French, and Spanish to include Arabic (Titmus et al. 1979) and an offshoot has appeared in Chinese (People's Republic of China 1985).

Whereas initial education has a common framework, to which national systems either conform or aspire, adult education is still very largely unstructured throughout the world, or else the structure is complex and the patterns yet to be identified with confidence—hence the ECLE research already referred to.

It is because of its continuing state of flux and our ignorance of its constituent elements that some comparative scholars believe in the current necessity to undertake macro studies, which help to map the field of adult education, identify the determinant influences upon it and its influence upon the society in which it exists. Specific, limited enquiries into components of it have contributions to make to decisions directly affecting educational practice, but they have little value unless they can be set within their societal context, however broadly this has to be sketched in.

Macro or micro comparative studies in adult education, however, are most handicapped by a dearth of quantitative data. The fragmentation of the field, lack of organization, and a traditional reluctance to attribute much importance to numbers has meant that statistics have either not been compiled or have been presented in unusable forms. Some attempts have been

made to encourage their collection internationally according to a uniform pattern (UNESCO 1975), but without significant success. For example, a substantial survey of adult education in nine industrial countries found it impossible to undertake a planned comparative study of participation statistics for lack of comparable data (Peterson et al. 1982).

The conditions do not yet exist therefore within adult education, nor yet do the means, for researchers to undertake complex qualitative and quantitative comparisons of the kind now being attempted in comparative education. At present, and for some time to come, they will be restricted to qualitative ones. Their role will continue to be in great part that of explorers in still largely unexplored territory. Much more work needs to be done on deciding what data is essential, in what form it should be gathered, and exerting influence to see that this is done. The only area where one may hope for success is, unfortunately, that of adult vocational education, where governments can see the desirability of devoting organization and money to the collection of reliable statistics, because they relate to the labour market. Nevertheless the qualitative and conceptual work that may be done may be of the highest value, both to comparative studies and to the field of adult education.

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Comparative Studies in Nonformal Education

P. H. Coombs

Comparative studies of nonformal education are a distinctive new field of research, which emerged in the early 1970s and has since had a wide impact on

development policies and programs and on research endeavors in a variety of fields. This article examines the origins and characteristics of this new field of studies

and cites several specific examples that can be roughly classified under three headings: (a) general studies, which encompass a wide diversity of nonformal educational activities; (b) specialized studies, which focus more narrowly on particular types of program; and (c) integrated studies, which examine broader development projects or programs containing integrated nonformal education components.

Nonformal education is viewed here as simply a generic name for the large and highly diversified family of organized educational activities outside the formal system—whether operating separately or as an integral part of some broader activity—and intended to serve selected learning needs of particular subgroups in the population. Comparative studies are defined as studies that describe, critically analyze, and systematically compare (generally on the basis of empirical case studies) two or more nonformal educational activities operating in different geographic and socioeconomic settings. This tight definition automatically excludes, but with no invidious distinction intended, many other studies and writing on nonformal education that have appeared since the early 1970s.

The initial impetus for these new-type comparative studies, and for the remarkable worldwide upsurge of interest in nonformal education, was sparked by the “world educational crisis” that appeared unexpectedly in the late 1960s. This crisis revealed deep flaws in the narrow-visioned strategy of linear expansion of inherited formal educational systems that had underpinned the dramatic quantitative growth of education in virtually all countries since the early 1950s. A widely discussed book that diagnosed the crisis concluded, among other things, that future strategies should pay much more attention to “that bewildering assortment of nonformal educational activities that constitute—or should constitute—an important complement to formal education in any nation’s total education effort.” These activities, it argued, “touch the lives of many people and, when well directed, have a high potential for contributing quickly and substantially to individual and national development” (Coombs 1968 Chap. 5).

Starting in 1970, several international development agencies—in particular the World Bank, the United Nations Children’s Fund (UNICEF), and the United States Agency for International Development (USAID)—followed up this diagnosis by funding a series of new research projects aimed at learning more about the characteristics and potentialities of nonformal education and at developing useful guidelines for operating agencies interested in expanding their activities in this neglected area.

1. Research Studies

1.1 General Comparative Studies

Some of these first research probings into nonformal education in the early 1970s took the form of comparative studies (as defined above). They had two other

distinctive features: first, they were designed primarily to serve the expressed needs of practitioners and thus were strongly oriented toward policy and operational questions; second, they undertook numerous critical case studies of actual programs with a view to extracting from their collective experiences specific lessons and general principles that could be helpful to others. In all three respects, they differed greatly from previous studies associated with the academic field of comparative education.

The first of these pioneering studies (Sheffield and Diejomaoh 1972) was conducted by the African-American Institute under a contract with USAID. Its purpose was to identify and assess “successful, innovative and transferable” nonformal education programs in selected African countries, particularly programs leading to employment (which, in the circumstances, meant mainly self-employment). The study gathered information from available documents on some 75 programs in a dozen different countries and developed in-depth analytical case studies on five of these. The concluding analytical section of the final report sets out a variety of significant operational conclusions based on a comparative examination of the various programs. Significantly, though the authors ventured to differentiate between the relatively less and more successful programs, they were skeptical about the “transferability” of the more successful ones, implying that each program had to be tailored to its particular clients and their environment.

The most extensive (and by general reputation the most influential) of the early general comparative studies were the two companion projects undertaken in 1970 by the International Council for Educational Development (ICED), sponsored respectively by the World Bank and UNICEF. Their prime purpose was to examine a wide variety of nonformal education programs in all developing regions—relating especially to the needs of children and out-of-school youth (the UNICEF study) and of small farmers, artisans, craftspersons, and other rural entrepreneurs (the World Bank study)—with a view to distinguishing and assessing different approaches to nonformal education, the kinds of clientele they serve, their costs and effectiveness, various environmental factors that help or hamper their success, and their relation to various types of development activities and to formal education. Five features of these ICED projects are especially noteworthy: first, the unusual breadth, depth, and critically analytical nature of their numerous case studies (Ahmed and Coombs 1974), which later inspired a much wider use of the “case study approach” by others; second, their extensive involvement of practitioners in many domestic and international development agencies in the process of planning and carrying out the research; third, their empirically based definition of nonformal education and their illustrative list of “minimum essential learning needs” of children and youth growing up in rural areas, which were soon widely adopted; fourth, the emphasis in their conclusions on the need for a more integrated and

community-based approach to rural development efforts of all kinds; and fifth, the substantial influence the reports had on major policy and program changes made by national and international development agencies (Coombs et al. 1973, Coombs and Ahmed 1974, Ahmed 1975).

A quite different type of general study, which emerged from the special program on nonformal education established at Michigan State University in the early 1970s, brought together in one large volume summary descriptions—with occasional comparative analyses—of a large number and variety of nonformal educational activities, based on documentation gathered from a wide variety of sources throughout the developing world (Kleis 1974). This volume, though not designed for an audience of practitioners and based largely on collected documents rather than original case studies, constitutes a rich source of ideas, clues, and references on nonformal education for other researchers and analysts.

1.2 Specialized Comparative Studies

During the latter half of the 1970s and the early 1980s, a variety of comparative studies appeared that focused on particular categories of clients or particular methods and techniques of nonformal education. Illustrative of these studies are:

- (a) A critical assessment of UNESCO's Experimental World Literacy Program, based on a comparative examination of projects in 11 countries (UNESCO/UNDP 1976).
- (b) A study of achievement motivation through nonformal education, encompassing 18 rural villages in India (Haredero 1977).
- (c) A comparative "state of the art" study on the training and utilization of paraprofessionals in various types of rural development programs, by a Cornell University team (Esman et al. 1980).
- (d) A comparative study for the World Bank on the uses of radio in nonformal education, based on evidence from a variety of developing countries (Jamison and McAnany 1978).

All of the above studies contain useful information, ideas, and guidance for policy- and program-planning purposes. They also have substantial value for further research.

1.3 Integrated Comparative Studies

A growing number and variety of comparative studies were undertaken in the 1970s that applied the new case-study approach to the evaluation of particular types of sectoral programs or to multipurpose development programs that contained substantial nonformal education components integrated with other kinds of component.

Two good examples of sector-oriented comparative studies of this sort are: a study sponsored by the World Health Organization, which examined 10 different approaches to rural primary health care, based on case studies from Asia, Africa, and Latin America (Newell 1975); and a comparative study, commissioned by USAID, on alternative strategies for assisting small farmers, founded on a detailed examination of 36 projects in Africa and Latin America (Morss et al. 1975).

Examples of comparative studies of multisectoral programs include: a study of *animation rurale* in Niger and Senegal that grew out of the USAID-supported special program on nonformal education at the University of Massachusetts (Moulton 1977); a more recent study by Save the Children on strategies for bringing women into the community development process (Levy 1981); and a somewhat similar composite study compiled by UNICEF and bearing on children and women.

The most far-ranging comparative study in this category was conducted by ICED in the late 1970s as a follow-up to its earlier, more general studies of nonformal education. It focused on a variety of innovative programs in several Asian countries, aimed at improving different aspects of rural family life (e.g., health, food, water, family planning, shelter, cash-paying productive activities for women), and more particularly on ways of achieving a more integrated, community-based approach to these objectives (Coombs 1980, 1981).

2. Future Studies

Virtually all of the new studies of nonformal education in the 1970s related to the special conditions of developing countries and particularly to the needs of the poorest segments of their populations, especially in rural areas. This has tended to give a distorted impression of nonformal education as simply a "poor man's education" and an "alternative" to formal education. Nothing could be further from the truth, however. The most industrialized countries (the United States, for example) make much more extensive and diverse use of nonformal education than developing countries have done thus far, not only to serve the needs of the disadvantaged and relatively uneducated, but to enable the most highly trained professionals (e.g., medical doctors, space scientists, electronic engineers, and high-level military officers and corporate and government executives) to keep abreast of the rapid advances of knowledge and technologies in their respective fields. Ironically, however, little research attention has yet been given to this vitally important assortment of nonformal education in the richest and most developed countries, where the focus of educational research still remains largely fixed on formal education. This situation seems likely to change, however, since a large conference on rural education in industrialized countries, organized in 1981 by Organisation for Economic Co-operation and Development (OECD), concluded that OECD member states could learn

much from the achievements of developing countries in this neglected area of nonformal education and development.

Anyone interested in keeping abreast of studies and publications on nonformal education will find the following bulletins useful: (a) *The NFE Exchange* (Michigan State University, East Lansing, Michigan 48824, USA); (b) *UNESCO Adult Education* (UNESCO, Paris, France); (c) *Ideas and Action* (Food and Agriculture Organization, Rome, Italy); (d) *Development Communication Report* (Academy for Educational Development, 1414 22nd St. NW, Washington, DC 20037, USA); (e) *International Council for Adult Education Newsletter* (Ontario Institute for Studies in Education, Toronto M5S 1V6, Ontario, Canada); and (f) *Rural Extension, Education and Training Abstracts* (Commonwealth Agricultural Bureau, Farnham Royal, Slough, SL2 3BN, UK).

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PART 2

National Systems of Education

Afghanistan

D. D-F. Lin

The Democratic Republic of Afghanistan is a landlocked state bounded on the north by the Soviet Union, on the west by Iran, on the east and south by Pakistan, and on the extreme northeast by the People's Republic of China. The country was formerly a Moslem kingdom, which became a republic in 1973. The present government was formed in 1978 after an armed coup d'état.

Afghanistan covers an area of about 650,000 square kilometers (250,965 square miles), mainly of high regions above an altitude of 1,200 meters. In the winter, periodic blizzards from the northwest bring heavy snow to the high mountains. The average yearly rainfall varies from 12 inches (30.5 cm) near the capital of Kabul in the east to 2 inches (5.1 cm) in the western desert regions. This dryness results in sparse vegetation that serves chiefly as pasturage for the herds of the nation's large number of nomadic tribes, which comprise about 16 percent of a total national population of over 15.5 million people. The population increases at a rate of between 2.2 and 2.7 percent a year. The country's climatic conditions pose serious problems for educational development, since providing schools and student transportation is difficult under the conditions of frequent inclement weather and widespread distribution of nomadic tribes.

1. Social, Economic, and Political Conditions

Nearly all Afghans are Moslems, and over 80 percent are of the Sunni sect. The ethnic groups include about 60 percent Pushtuns, 30 percent Tajiks, and 5 percent Uzbeks. The remaining 5 percent are composed of Hazaras, Hindus, Sikhs, and Jews. Among the many languages, the two most widely spoken are Pashto Iranian and Dari (Farsi), which are used by more than 80 percent of the people. With an augmented Arabic script, these two tongues have been adopted as the official national languages and the media of instruction in the schools since 1936. Such a two-language policy has made it necessary for many students to take instruction in an unfamiliar language. A further burden is that of studying the Moslem holy scriptures—principally the Koran—in the Arabic language.

For a variety of reasons, including the complicated language conditions and the shortage of qualified educational personnel and instructional materials, Afghanistan has suffered great difficulties in improving the literacy rate. In 1965, only 6.4 percent of the population above age 14 were literate. By 1975, only 12.2 percent

above age 5 could read, and by 1978 conditions were hardly any better. The literacy rates in rural areas and among women have been particularly low, with more than 98 percent of females over age 6 illiterate.

Nearly three-fourths of the labor force is engaged in agriculture, which accounted for half of the gross national product and 80 percent of export earnings in 1980. The most profitable mining resource has been natural gas, most of which is piped to the Soviet Union in payment for imports and debts. The major industries include cotton textiles, chemical fertilizers, and leather goods. However, with no seaports or rail lines and without the water resources that would produce industrial-level electric power, the country has been unable to develop either a prosperous economy or a well-financed, efficient educational enterprise.

In terms of political structure, the nation became a constitutional monarchy in 1931 and remained in that form until the king, Zahir Shah, was ousted in 1973 and a republic established. The leaders of the republic in 1978 were replaced in a coup d'état, with fierce fighting continuing into the 1980s between traditionalist Moslem tribesmen and the new government's armed forces. Even with the aid of troops from the Soviet Union, the government was unable to suppress the rebellion and the society suffered considerable disorder. In 1981, nearly one-seventh of the entire Afghan population escaped to Pakistan and Iran. The war not only caused much damage to agricultural production and animal herds, but seriously disrupted the conduct of education.

2. Educational Development

Education in Afghanistan can be traced back to the pre-Islamic period, when the aim of education was to bring moral enlightenment through Hindu and Buddhist teachings. After the Arab conquest of the seventh century AD, the Moslem mosques became the educational centers, where religious leaders—the Mullahs—taught the Koran, Islamic history, Arabic grammar, literature, logic, and philosophy. In the seventeenth century, geography and mathematics were added.

The first secular schools, with foreign teachers for the new subjects, were started by Amir Mohammed Khan in 1859, but not until the 1920s was modern education really begun, with the first high schools and vocational schools and the first girls' school established as a result of increasing foreign influence. Kabul University was started in 1932 as a medical faculty; then, in 1947, it

combined with the faculties of law (founded in 1938), science (1942), and letters (1944) to form a comprehensive university when the nation became a member of UNESCO. The university in 1980 had 10 faculties and a polytechnic institute for training engineers.

During the latter years of the monarchy, the 1940s through the 1960s, marked progress was recorded in providing schooling for a growing percentage of the school-age population, with enrollments rising from 62,000 in 1940 to over 500,000 by the late 1960s. The primary-school curriculum emphasized the Koran and Islamic theology. In the middle school, the emphasis was on mathematics, science, history, geography, and languages. Teaching methods stressed rote learning.

In 1975, following the establishment of the republic, educational aims emphasized the development of self-reliance, moral values, mastery of the national culture, respect for work, and a sense of social justice and responsibility. Whereas previously, under the influence of United States educators, the country had established a 6-3-3-4 education ladder, in 1975, the schooling hierarchy was changed into an 8-4-4 sequence, and a new 10-year cycle for primary and secondary education was introduced in 1981. In keeping with a new vision of national socioeconomic development, many general secondary schools were changed into vocational institutions, focusing on agricultural and technical studies. Primary-school graduates were selected for secondary education by new admission rules, and short-term vocational courses were introduced.

By 1978, the enrollment in the nation's higher learning institutions had reached 1,118, with more than half of the students in teacher-training and engineering programs. The length of preservice training for primary-school teachers at the secondary-school level has been from one to three years, while higher teachers' colleges have offered a two-year junior-college program for preparing secondary-school teachers. The Teacher Training Academy, assisted by UNESCO experts, recruited university graduates for training to become educational specialists and instructors in teacher-training programs.

Following the coup of 1978, the National Ministry of Education took charge of all educational affairs under the supervision of the nation's Revolutionary Council and its president. At that time, a 20-year economic and military treaty was signed with the Soviet Union, and Soviet scholars were brought in to advise on teaching methodology and political education. Education at all levels was declared to be free of charge, and compulsory education for the primary grades became official policy.

However, because of the nation's continuing social disorder and the shortage of schools and teaching personnel, the compulsory-education goal could not be achieved immediately. In 1979, only an estimated 22 percent of the elementary-school-age population (ages 6-13) of 1,139,592 were attending school, with six times more males enrolled than females. Only 7 percent of school-age girls attended primary and secondary schools.

In 1979, the government announced a new five-year social and economic development plan that provided for a 5 percent annual growth in the economy and the achievement of universal primary education by 1984. The government also launched a new adult-literacy campaign and adopted a policy of conciliation and respect for Islam in order to encourage the country's Moslems to join a broad-based united political front. At the same time, examinations for high-school admission were abolished.

A key feature of educational-development plans for the 1980s is an attempt to tip the balance of educational opportunity more toward the less privileged members of the society, including the ethnic minorities. In 1980, the goal for the renewed literacy campaign was set to eliminate illiteracy among males by 1990 and to provide voluntary female literacy. The government also proposed that the educational system below the tertiary level be comprised of primary schools, basic-education middle schools, full-program middle schools (providing a complete academic curriculum), and religious schools. Children aged 10 to 14 who had never attended school could enroll in two-year accelerated primary programs. Also in 1980, the responsibility for all national educational affairs was assigned jointly to the Ministry of Education and a Ministry of Higher Education.

How well these plans can be carried out clearly depends upon several crucial factors, particularly on such conditions as the state of civil war and presence of Soviet troops in the country, attitudes of the populace regarding the role of women in the society, the difficulty of providing suitable teachers and instructional materials under the country's multilingual conditions, the treatment of ethnic minorities, and the strength of the economy.

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Albania

S. Temo

Albania is situated in the southwestern part of the Balkan peninsula. It has an area of 28,748 square kilometers (12,000 square miles) and had a population of 2,900,700 in 1984, with a rate of population increase of 19.9 per 1,000. Albanians are descendants of the Illyrians, one of the most ancient stocks of the Balkans, and have ancient patriotic, cultural, and educational traditions.

Albania won its independence from centuries-long Ottoman rule in 1912. In 1939, it was occupied by Italy and later in the Second World War by Germany. The country was liberated from foreign occupation and became independent on 29 November 1944 under the leadership of the Communist Party of Albania (today the Party of Labor of Albania—PLA), headed by Enver Hoxha. Albania is a People's Socialist Republic. From being a backward agrarian country ruled by feudal laws, Albania has become industrialized and completely electrified. It is tax-free and has free education and medical services. Agriculture is collectivized.

The economy and culture are subject to planned development. Society consists of the working class, the cooperativist peasantry, and the people's intelligentsia. Marxism-Leninism is the ruling ideology.

Before the Communist Party came to power, Albania was one of the most backward and poorest countries of Europe, with 90 percent of the population illiterate and with only 25 percent of children attending school. There were a few kindergartens (in the towns only) and higher education was nonexistent. School programs, textbooks, and well-qualified teachers were in short supply.

1. Goals of Education

Education in Albania aims at educating people in the spirit of socialism and communism, endowing them with a broad cultural and scientific knowledge and a Marxist-Leninist political and theoretical world outlook. The all-round development of individuals who are committed to the principles of a socialist society is emphasized.

The school reform of 1946 initiated changes of a democratic and socialist character. The 1963 reorganization of schooling strengthened the links between school and life and also between theory and practice. The further revolutionization of schools in 1969 improved the qualitative level of schooling and strengthened its ideological and formative influence and the teaching of science.

On the basis of tasks laid down by the eighth Congress of the Party of Labor of Albania in 1981, and of the 1982 decision of the Political Bureau of the Central Committee of the Party to "Further raise the quality of the teaching-educational work of the school," changes were made in the educational system and the school curriculum. The aim was to improve the quality of

schools and enhance their role in the communist education of the younger generation, in conformity with the socioeconomic development of the country and contemporary technical and scientific progress.

Education is free to all, is secular, and guarantees the right of national minorities to receive schooling in the mother tongue. It combines lessons with productive work and with physical and military training.

2. Structure and Size of the Educational System

Education in Albania is directed at the mass of the people. Illiteracy was wiped out by 1955 among those up to 40 years of age. The eight-year basic school is compulsory, and secondary and higher education enrollment has increased. More than 67 percent of workers have an eight-year schooling and 32 percent have a secondary-school or higher qualification. In the countryside, 52.3 percent of the cooperativists have an eight-year basic education or secondary schooling. About 59,124 persons have higher education qualifications and 206,998 have secondary-vocational schooling. In 1984, females made up 47 percent of all pupils and students.

Figure 1 presents the structure of the educational

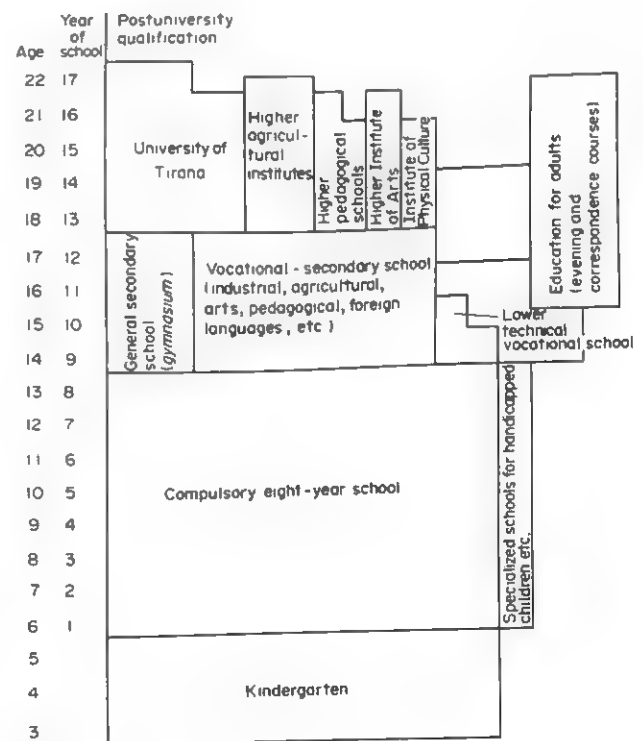


Figure 1
Structure of the educational system

system. Preschool education is for children aged 3-6 both in towns and the countryside. It undertakes their social education and provides them with a basic communist education. From 1938 to 1984, the number of kindergartens increased 130-fold, the number of children in them 44.7-fold, and kindergarten teachers 118.8-fold. Work in kindergartens is carried out according to a set educational program. Food and recreational activities are provided.

The eight-year basic compulsory school provides education for children aged 6 to 14 years of age (grades 1 to 8). It provides an elementary scientific training as well as the basic elements of political, ethical, aesthetic, and physical education. Some technical education is also taught. At graduation, pupils can normally proceed to any of the various kinds of secondary school or a technical vocational school for one or two years.

From 1938 to 1984, the number of pupils in the eight-year basic schools increased 9.9-fold and teachers 19.13-fold. The curriculum covers social-humanitarian subjects (46.45 percent), mathematics and natural sciences (29.8 percent), aesthetic education (7.15 percent), physical training (7.15 percent), and work habits (9.45 percent). Special schools of music and of sports and schools for handicapped children also exist.

The four-year secondary education provides for youths aged from 14 to 18 and is divided into general secondary schools (*gymnasias*) and vocational-secondary schools (industrial, agricultural, or sociocultural). Since 1938, the number of secondary schools has increased 31.8-fold, and the students in them 93.7-fold. Vocational schooling, especially in the countryside, has priority.

The general secondary school provides students with general ideological, scientific, and technical knowledge. This enables them after secondary school to attend special courses, where they acquire various professional qualifications, or to go on to higher schools.

Vocational-secondary schools provide students with general knowledge, ideological education, and essential technical and professional skills so that they may then proceed to a higher school in a particular specialization.

Young workers and cooperativists attend general or vocational secondary schools part-time for a period of five years.

The system of higher education, which became available only after liberation, includes the University of Tirana, with courses lasting from 4 to 5 years in 7 faculties (history and philology, natural sciences, political and legal sciences, economics, medicine, engineering, and geology and mining); the higher agricultural institutes in Tirana and Korca, providing courses lasting 4.5 years in the 4 faculties of agronomy, veterinary science, agrarian economy, and forestry; the higher teachers' training institutes, with courses lasting from 3 to 4 years in Shkodra, Elbasan, and Gjirokastra; the higher Institute of Arts with 4-year courses in drama, figurative arts, music, or choreography; and the *Vojo Kushi* Institute of Physical Culture and Sports, running

courses lasting 3 years in Tirana. There are also five branches attached to higher schools for workers and cooperativists who study part time. Their course is one year longer.

Before liberation, only 380 Albanians had higher education qualifications whereas, by the beginning of the 1980s, eight times as many persons were trained per year. Today higher cadres are trained in 68 specialties for all the needs of the country's economy and culture.

Higher education produces personnel to meet the needs of the economy, of culture, and of defence. It produces ideologically sound cadres equipped with broad general knowledge and scientific training, who are competent to accomplish the tasks with which they are charged in carrying forward the technical-scientific revolution.

The teaching-learning process in secondary and higher education is based on a tight dovetailing of lessons to work in production and professional practice as well as with physical and military training. The academic part occupies most of a student's time. Work in production and professional practice is aimed at the all-round education of the younger generation, their ideological formation, and the training of qualified professionals. This is carried out in school production centers, in interschool centers, or in special sections of various enterprises. Students in general secondary schools take part only in work in production.

Physical and military training is carried out in special programs, with curricula varying according to the age and sex of participants.

Postgraduate courses last from one to three years and train highly qualified cadres in specific subjects designed to meet the demands of the economy and of culture. Some 47 such courses were opened at the university in 1984 alone.

The communist education of the younger generation is the concern of the entire society, including schools, the family, the state and its economic organs, and the political organizations of the masses: the Democratic Front, the Women's Union, the trade unions, the political organizations of children, the young pioneers' and youth organizations, the extraschool cultural, educational, artistic, and sports institutions, such as the Young Pioneers' Houses, the Homes and Hearths of Culture in villages, theaters, and stadiums, libraries, rest homes for children and youth, etc. Literary, artistic, sociopolitical, and social books and periodicals [such as *Yllkat* (Starlets), *Fatosi* (Tenderfoot), *Pioneri* (Pioneer), *Horizonti* (Horizon), and *Shkenca dhe Jeta* (Science and Life)] are published for children and youth.

Extracurricular and out-of-school educative work is undertaken through various programs with specific objectives. They include the broadening of students' ideological, scientific, and cultural horizons, the inculcation of the norms of communist morality and sound aesthetic tastes, and the development of students' creative abilities.

3. Administration and Finance

Education is organized and directed by the state. The Ministry of Education and Culture approves such matters as teaching plans, programs, and textbooks and is responsible for the overall direction and control of the entire system of education.

The educational plan is part of the general plan for the economic and cultural development of the country. It contains the objectives for the increase in all categories of school and lays down the expected number of students and pupils. During the seventh five-year plan it is envisaged that 160,000 pupils will graduate from secondary school and an increase of 45 percent of students will be enrolled in higher education. Admission to institutions of higher education is made on the basis of progress in secondary school.

Sociocultural expenditure accounts for 27.1 percent of the state budget. A large number of students receive state bursaries to enable them to study. Workers who attend evening or correspondence courses are entitled to a certain reduction in working time and supplementary paid leave in order to prepare for examinations.

4. Teaching Personnel

There are over 40,600 teachers, of whom 53.6 percent are women, working in all categories of school. Kindergarten teachers and lower cycle teachers in the eight-year school are trained in special teacher-training schools or three-year pedagogical institutes. The teachers of the higher cycle in the eight-year schools and those in secondary schools are trained at the university and other higher education institutions.

Teachers and school principals undertake further study and seek higher qualifications in methods study groups and on school commissions. Certification is determined by teacher commissions at the district level, at the institutions of higher education, and at the Institute of Pedagogical Studies.

Certification of higher education instructors depends on their first and second degrees, postuniversity studies, and the defence of a dissertation or doctoral thesis.

5. Examinations and Certification

Promotion of pupils and students to higher grades is made on the basis of progress during the school year. Students in the last grade of the eight-year school, in grade 4 of secondary school, and at all higher education institutions must sit examinations. To be promoted from one school type to the next pupils must receive more than 5 on a 10-point scale in an examination or assessment.

At the end of every school year, the pupils and students receive a school certificate. The graduates of

the eight-year school receive a special certificate. Higher education students receive a diploma; they prepare their diploma theses during the school-year period.

The state guarantees jobs for all graduates in accordance with their specialties.

6. Educational Research

General pedagogical scientific research is carried out by the schools, the institutes of higher education, and especially by the Institute of Pedagogical Studies, which was set up in 1969.

This latter institute undertakes work in the field of pedagogy, didactics, the theory of education, general and educational psychology, school management, and the history of education and pedagogical thinking in Albania. The institute publishes the *Pedagogical Review* and other periodicals.

The fundamental educational goals to which studies will be directed in the 1980s and 1990s are: (a) forecast studies of the development of education in conformity with the economic and cultural advance of the country, especially the intensification of the mass character of secondary schooling until it becomes compulsory and the creation of new specialties in higher education; (b) the general qualitative strengthening of schools, the scientific, pedagogical modernization of school programs and texts, the further strengthening of links between school and life, practice and productive work, the integration of education and science with modern production, and the radical improvement of teaching methods and teaching equipment; (c) the development of active, creative thinking in pupils and students, the intensification of educative work for the formation of a Marxist-Leninist world outlook, and the communist education of the younger generation; and (d) developmental and educational psychology.

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Algeria

M-D. Chabou

The People's Democratic Republic of Algeria, with an area of 2,381,741 square kilometres (919,352 square miles), is among the largest African countries. Lying between latitude 20° and 30° North, it has a coastline extending 1,200 kilometres along the southern Mediterranean. Its northern inhabited zone covers more than 38,100 square kilometres (14,707 square miles) whereas the Saharan region—over 2 million square kilometres—is among the world's most sparsely populated areas.

Administratively, Algeria comprises 31 *willayate* (prefectures), subdivided into 160 *dairate* (subprefectures) and 704 communes. In 1981, the population was estimated at 19 million, of which 58 percent were under 20 years old, a fact of some educational significance. The basis for national policy and legislation is the National Charter, adopted after the referendum of June 27, 1976. A further referendum of November 18, 1976 ratified the Constitution, which embodies the principles of the Charter. Algeria is a socialist state, with a People's National Assembly as its legislature. Institutionally, it is also a one-party state, with Islam as its religion and Arabic as the national language.

Before the installation in 1830 of the French colonial regime which lasted 132 years, the Algerian educational system was identical to that of other Islamic countries. A widespread network of *katabib* (primary schools), *medersas* (secondary), and *zawiya* (higher education institutions) met the needs of a primarily agricultural and pastoral population. French sources give the proportion of illiterates at the time as between 20 and 30 percent, a smaller one than in France itself.

In the colonial era, an educational system developed that catered essentially for children of the European colonists. Between 1830 and 1890, the system reserved for Algerians declined. Not until 1895 was a school designated "for the indigenous population" founded, but then only for the children of employees of the French colonial administration. Its purpose was to train "assistants" for the colonists. In 1949, educational system A, reserved for Europeans, and system B, for the indigenous population, were unified. Schooling for Algerians had been very limited. In 1945, of 1.5 million potential attenders, only 25,000 boys and 8,000 girls were actually in schools. These were located in towns and the coastal zone, where colonists were most numerous; the hinterland suffered total neglect. Private education, organized by the *ulemas* and financed by the Algerians themselves, existed alongside the state system, although subject to strict legal and administrative controls, since the authorities were anxious that it should not compete with the "official" system. Although catering for only some 50,000 children, it alone offered schooling corresponding to the country's cultural needs. On the other hand, colonial education had developed as in France, identical in all important

respects. It reflected the desire of its promoters to assimilate, as officially expressed, the "indigenous" population and, "thanks to and through the practice of the French language [to bring it] to universalism". It denied the Algerians their history, language, culture, and individuality, teaching them that their "ancestors were the Gauls". Statistics show that few Algerians reached the top university posts. Thus, in 1962, no Algerian teaching in Algiers University held a state doctorate. On the eve of independence, only some 600,000 children attended primary school. Some 2.5 million received no education whatsoever. Only 35,000 Algerians reached secondary education and only 600 entered higher education. The Algerian educational system suffered from those same deficiencies that were condemned in France, i.e., overcentralization, elitism, traditionalism, and the primacy given to methodological problems rather than to reflective philosophical thinking about education.

On July 5, 1962, after an eight-year war of liberation, the new state faced a situation unique among developing countries: it had inherited an educational legacy conceived and worked out to the last detail by foreigners. For more than a century the system had been part of a vast undertaking to acculturate and depersonalize the country. Although it employed some 25,000 people, mainly primary teachers, only 8 to 10 percent were Algerian. Moreover, in 1962, most other teachers had left. In three months, the new authorities had to recruit sufficient new teachers by mobilizing all young adults who held a primary-education certificate and training them throughout the summer. This goal achieved, a start had to be made on the various tasks that had been spelled out at successive congresses of the National Liberation Front, from Soumman in 1956 to Tripoli in 1961.

In 1965, Dr Taleb Ibrahimi, the minister of education, stated the aims of Algerian education as: Arabization, Algerianization, democratization, and the development of science and technology. These remain the goals. Dr Taleb also elaborated three educational ideals: "to be oneself, to be a part of one's people, to be of one's time". These maxims epitomized the problems confronting Algeria: how to strengthen its roots, how to achieve authenticity, and how to attain modernity.

Arabization was introduced progressively. French as the vehicular language was replaced by Arabic in certain subjects, such as history, starting in 1964 for the first year of schooling, then in 1967 for the second year. Eventually, some completely monolingual (Arabic) tracks were created at all levels. By 1981, this Arabization policy included not only literary and social science subjects, but also mathematics and the physical sciences. The present view is that only complete Arabization of the pure science disciplines can render Arabic

a truly operational language. By the 20th anniversary of independence, teachers in Arabic were all Algerian. Previously some 90 percent of primary teachers had come from other Arab countries—in 1962, teachers generally comprised 57 different nationalities. In 1982, foreign teachers were no longer required for Arabic and foreign languages, although assistance from abroad is still needed for mathematics, the physical sciences, and computer studies.

Algerianization embraces curricula, structures, teaching methods, and even school buildings. Curricula in the arts and the human and social sciences are completely Algerianized, allowing children to find their roots in the past and in their present physical and cultural environment. The National Pedagogical Institute now produces all teaching materials for school education, including several million textbooks a year.

The emphasis on science and technology has been justified because of the ground to be made up in these key fields for development. Until 1962, Algeria was agricultural, producing mainly cereal crops and dependent on France for its industrial installations. Thus, the process of industrialization, although it has meant allocating additional teaching time to mathematics and science, has had to permeate the entire educational system, thereby embracing every aspect of daily life.

After the long period of colonial rule, formal education has aimed at re forging the links with Arabo-Islamic culture and thus assigns a high priority to the national language. This policy of total Arabization does not preclude the teaching of foreign languages. At present four million primary children learn French. In secondary school, English, German, Italian, Spanish, and Russian may be studied; eventually Swahili, Portuguese, and Chinese will be introduced. These languages have been taught at Algiers University since the 1971 reforms.

Strengthening the ties with Arabo-Islamic culture has gone hand in hand with adherence to the values of socialism which have emerged from the past struggle. In 1971, Mr S. Benyahia, Minister of Higher Education and Research, put forward as his goal,

To train cadres who are technically competent, imbued with the Algerian personality, aware of national realities, capable of solving the problems of the national community, possessing a sense of responsibility, involved in the process of socialist development within Algeria, able to use the problems of science in the service of their people, competent to participate in the enrichment of the store of universal knowledge, and worthy to spread abroad the cultural and scientific reputation of their country.

1. General Structure and Size of the Educational System

In 1982, the school system comprised six years of primary, four years of intermediate, and three years of secondary education (Fig. 1).

No of years of education		Present system (1982)		Old system	
Age	Additional 5-10 years				
25-35		University (state doctorate)		Higher education	
25	20	University (master's degree)			
24	19				
23	18				
22	17	University, undergraduate course (licence)			
21	16				
20	15	General or technological lycée (baccalauréat)		Secondary education	
19	14				
18	13				
17	12				
16	11			Intermediate education	
15	10				
14	9				
13	8				
12	7	Basic polytechnical school		Primary education	
11	6				
10	5				
9	4				
8	3				
7	2				
6	1				

Figure 1
Structure of the educational system

Primary education begins at age 6 and lasts six years. However, to qualify for the primary-education certificate a further year is necessary. The course is divided into three phases of two years each: (a) a two-year preparatory course with teaching exclusively in Arabic; the aim is the acquisition of the basic skills of reading, writing, and arithmetic; (b) a two-year elementary course in which the national language occupies two-thirds (20 hours a week) of the timetable; this time is spent in consolidating the basic skills; French as a foreign language occupies 10 hours a week and is concerned with reading and writing skills; and (c) a two-year intermediate course (*cours moyen*), in which 16 hours are taught in Arabic and 14 in French. This final phase aims to complete the adoption of children to their cultural environment, whilst opening up the outside world for them. The dropout rate between the elementary and intermediate courses is at present about 7 percent.

Intermediate education proper lasts four years. It aims to be autonomous, undifferentiated, and unified.

ensuring equal opportunity for pupils through a general, uniform course. Teaching is bilingual in both literary and scientific subjects. In science, the emphasis is on accustoming pupils to the use of Arabic in the various fields. At the end of the course, pupils sit the examination for the diploma (*brevet*) of intermediate education. They are then oriented to general secondary education or to a preparatory year before entry to a technical institution. The dropout rate for the course is about 11 percent.

Until September 1979, budgetary constraints, the need for mass education, and the need to train sufficient teachers had hampered changes in structures inherited from the colonial era. A report proposed the setting up of a basic school characterized by: a single-track course; reinforcement of the teaching of the national language and Arabo-Islamic values; the consolidation of revolutionary and political awareness; a smoother transition for the individual into society by means of the inculcation of intrinsic Algerian values; polytechnical education, which, forging a balance between science and action, abolishes the dichotomy between theory and practice and is closely linked to national social and economic development.

From September 1980, classes were set up for the first year of a basic nine-year school. The school should be operating completely by 1988-89. The course will comprise three phases of three years each. A first phase includes the acquisition of the basic skills (reading, writing, language, arithmetic, and religious, moral, social, civic, aesthetic, and physical education, including sport). The second phase will aim at consolidating the basic skills and other subjects begun in the first phase. Pupils will also study the natural and social environment, natural sciences, technical drawing, history, geography, and a foreign language. The third phase will include elementary principles of the physical sciences and technology and study of the environment in its different socioeconomic and cultural aspects.

Secondary education takes place in *lycées*. Six options are available: arts, sciences, mathematics, mathematical technology, civil engineering, and secretarial skills. Courses last three years, leading to a national examination, the *baccalauréat*, which qualifies students for entry to corresponding courses in higher education.

A restructuring of secondary education is under consideration which would entail a reorganization into tracks for: general secondary education, specialized secondary education, and technical secondary education. A restructuring of the disciplines and improvement in assessment procedures are also envisaged.

Because of the colonial legacy, the problem of higher education and research structures in Algeria has been totally different from countries in which close ties between the university and the national culture exist. After independence, the university was reorganized and the academic year lengthened. In 1971, the university took on an integrated form, as the one corresponding best to national interest. Student recruitment for the

various courses is linked to future personnel needs. A modular system has been set up, with continuous assessment. This ensures pluridisciplinary and the economic use of facilities. It also enables students to change the direction of their studies with the minimum of inconvenience.

The integrated university comprises institutes covering the main fields of knowledge: national language and culture, social sciences, medicine, law, etc. Autonomous in their functioning and organization, the institutes are interdependent for the provision of courses.

Coordinating committees for teaching have been established. Within each modular course, teachers and students meet frequently to discuss how the course is organized and functions, the methods employed, and evaluation. These committees foreshadow the application within the university of socialist management as it exists within industrial and agricultural production units. Like any other production unit, the university will be run on a democratic basis by all its members.

Research is structured on the same principles. The National Council for Scientific Research fixes nationally the principal lines of inquiry in the various fields of knowledge, in cooperation with all sectors of national life. These research activities are then entrusted to the institutes, which in turn assign them to their respective departments. A department constitutes a research "collective" in which all teachers participate in the research programme. The university is empowered, on behalf of its institutes and departments, to enter into research contracts with the various public bodies. This new structure has already yielded promising results. The overriding concern is to link research with economic, social, and cultural development, so that it becomes the collective responsibility of all researchers.

2. Administration and Finance

Development of the administrative structures of education reflects the prodigious growth of the system. For almost a decade after independence a single ministry, initially entitled the Ministry of National Orientation so as to reflect its socialist character, directed all services. However, in 1970, this ministry was divided into a Ministry for Higher Education and Scientific Research and a Ministry for Primary and Secondary Education. The Ministry for Religious Affairs has also established educational institutions concerned with the national past and origins, whose structures and programmes are similar to others but in which teaching is given entirely in Arabic and the curriculum is reinforced by courses in theology.

Since the ministerial restructuring of January 12, 1982, education has been represented by three ministries: one for school education and basic education; one for higher education and scientific research; and one for vocational training, with a secretariat for secondary and technical education. This diversification reflects the complexity of the task of the cultural revolution, which

is one of the permanent objectives laid down in the National Charter. Diversification, with differentiation and decentralization, allows this task to be tackled more efficiently.

The various institutions are administered on a decentralized basis, but the organization is pyramidal. At *willaya* level, a representative of the ministry for school education and basic schools supervises all schools. A national parents' association assists the administration.

At *willaya* level, the university has its own organization and administration. The university is under the direction of the rector, who is appointed by decree, and is made up of the various institutes. The rector and the institute directors constitute the university council. The departments and divisions within each institute are controlled by the teaching staff. Legislation to introduce socialist management into the university is being drawn up.

Since the educational system is unified, no private educational system exists in Algeria.

The size of educational expenditure in Algeria is among the highest in the Third World. At independence, education accounted for only 11 percent of the state budget. A decade later it stood at 26 percent and by 1982 it had risen to some 30 percent. Table 1 presents the percentage allocated to education from the state current and capital budgets for selected years between 1963-64 and 1978-79.

All education is free, as is all educational equipment. To promote equality of opportunity grants are available for all students in higher education. Paid sabbatical leave within Algeria or, if necessary, for study abroad, is granted to university teachers.

The five-year plan (1980-84) envisaged the creation of 2,000 new classes, 176 *collèges*, and 25 *lycées* a year, for which a total of 25.7 billion dinars was allocated. For the same period, 10 billion dinars were also set aside for the construction of 4 universities, 10 university centres, 15 institutes, 5 biomedical units, 5 university hospital centres, and the refurbishing of 7 other centres. Lastly, 2.6 million dinars were allocated for an extensive research programme being undertaken in a score of centres under the aegis of the National Centre for Scientific Research. All provision is from state funds.

Expenditure on this scale has been required since independence in order to meet the needs of the expanding educational system and make good past deficiencies. Although Algeria has put considerable resources into its cultural revolution and despite the promising results already obtained, it is conscious of improvements still to be made in class size, school buildings, teacher training, etc.

3. Teachers, Curricula, and Examinations

Recruitment of teachers is both international and national. Internationally, Algeria is becoming increasingly less dependent upon foreign teachers. All primary and intermediate teachers are Algerian, but in secondary, technical, and higher education, particularly in science and technology, gaps still remain. They are at present filled from other Arab countries, as well as from socialist and Western nations. Teachers may also be recruited abroad on private contracts.

Recruitment is based upon the following principles: (a) creation of a unified training system; (b) clear division between the training of teachers and the training of teacher trainers; (c) standardization of staff, regardless of recruitment source; (d) recruitment based upon competence attained rather than formal qualifications; and (e) concurrent education and training.

The former colonial teacher-training institutions have been replaced by institutes of the technology of education (ITE), which train instructors and primary and intermediate teachers. The course lasts one year. Whilst instructors continue their general education, for the other two categories the emphasis is primarily on teaching skills. There follows a one-year practice period leading to the award of a teacher's certificate.

Entry qualifications to teacher training vary according to category: future instructors must have completed either three or four years of postprimary education; intending primary teachers must have completed either five or six years of postprimary education; and intending intermediate teachers must have completed either six or seven years of postprimary education.

Future secondary *lycée* teachers, after gaining the *baccalauréat*, enter the *Ecole Normale Supérieure*. For

Table 1
Current and capital education budgets (dinars) as percentage of state budgets, 1963-79

	1963-64	1966-67	1969-70	1972-73	1975-76	1978-79
Current expenditure						
Total state budget	2,632.1	3,332.0	4,447.0	5,364.6	12,344.2	17,575.3
Education budget	548.9	680.0	980.0	1,707.7	2,951.0	5,228.7
Percentage	20.8	20.4	22.0	31.8	23.9	29.8
Capital expenditure						
Total state budget	1,108.7	1,375.0	6,573.0	2,831.9	5,412.3	12,531.2
Education budget	170.8	200.0	654.0	668.9	1,129.5	3,650.9
Percentage	15.4	14.5	9.95	23.6	20.9	29.1

Table 2
Number of teachers, 1979

	Primary	Intermediate	General Secondary	Technical Secondary	Total
Teachers	85,000	27,077	7,975	1,069	121,121
Foreign teachers	—	3,449	5,210	572	9,231
Percentage of Algerians	100	87	35	46	92

the first three years, they follow a university course in their chosen field. In the fourth year, they attend theoretical and practical courses of professional training given by education specialists or general inspectors.

For recruitment of teachers in higher education, the former French system still applies, although it will eventually be replaced by two postgraduate qualifications: (a) a three-year course leading to a master's degree (*magister*), for posts as lecturer; and (b) a longer period of study leading to a state doctorate, for a professorial appointment.

The first qualification was established in 1975 and is now being generalized to all disciplines. It requires an advanced, up-to-date knowledge of one's subject, the ability to make an original research contribution, and teaching competence. The numbers of teachers at different levels in 1979 are shown in Table 2. By 1984, at the end of the fifth plan, the total number of teachers is expected to rise to 178,460, of whom 99 percent will be Algerian.

Recent developments in curricula and teaching methods reflect the general trends already mentioned. There is a systematic and progressive use of Arabic in all fields. This has gone hand in hand with the practical realization of Algerianization, the equalization of opportunity, and the introduction of a scientific and technological approach. Foreign-language policy is based upon the practical use of languages and upon their affording "an opening upon the world". In conformity with socialist principles, the distinction between theoretical and practical education has been eliminated, polytechnical curricula patterns have been adopted, and efforts have been made to match educational content and training by profiling them with the overall national development plan.

At the same time, no parallel system of education outside the control of the state and the National Liberation Front has been allowed. Educational and administrative structures have become more interlinked by progressive decentralization and by a democratization of the relationship between teacher and taught, administrator and administered.

The distinctive characteristic of the new grading system is a break with former highly selective colonial practices. In order to promote equality of opportunity, yearly grade examinations have been abolished, without any relaxation of standards. However, national examinations between levels of education have been retained:

transfer at the age of 11, the intermediate-leaving diploma, and the *baccalauréat*. Since 1971, continuous assessment has been introduced into higher education. This can take a variety of forms, depending upon the particular discipline. For the bachelor's degree, the submission of a dissertation, followed by an oral examination, is compulsory. At the various postgraduate stages (advanced postgraduate diploma, master's degree, and doctorate) candidates must demonstrate their ability to undertake original academic research.

Although in primary education, teachers assess their own pupils, for the various national examinations anonymous examining boards are set up. At university level, these boards are appointed by the university council, their members being nominated by the director of the appropriate institute.

Equivalence of foreign qualifications is decided by the minister for higher education.

4. Educational Research

Educational research was at first the responsibility of the National Pedagogical Institute, but is now established within the National Centre for Documentation and Pedagogical Research, set up in 1981.

Research has tended to be pragmatic, concentrated on the compilation of textbooks for the various levels of education, so that today Algeria is virtually self-sufficient in school books, as well as in teaching materials. Educational economists and planners have produced a number of development plans for the school system and studied the question of educational costs. At present, research is also being carried out in the field of evaluation. Postgraduates have also researched the history and philosophy of Algerian education, curricula analysis, and the study of values transmitted through textbooks.

5. Major Problems

The fifth plan (1980–84) established as a priority the attainment of quality in education. The practical measures to achieve this goal are laid down as follows. In primary education, the goals are a reduction in class size from 55 to 46 pupils; a teacher:pupil ratio of 1:34 (at present it is 1:36); abolition of the shift system of schooling within 10 years; preservice and inservice training of teachers; abolition of the category of "assist-

ant teacher" (*moniteur*) at present numbering 6,000; and introduction of the polytechnical principle. In general secondary education the goals include diversification of the number of tracks available, so as to correspond to socioeconomic development; strengthening of the teaching of the exact sciences, particularly mathematics; and widening of access to higher education. The plan envisages intensive concentration on the technical secondary education sector, which at present includes only 9 percent of secondary pupils; major problems for this sector are the setting up of the most effective and profitable curricula in cooperation with the business and industrial sectors of the economy; and achievement of congruence between secondary technical and higher education so as to eliminate transfer obstacles. In higher education emphasis will be placed on reinforcement of the basic sciences and technology; relocation of university institutions so as to effect a more rational distribution of cadres throughout the country, in accordance with the social and economic development plan; and decentralization and specialization of university centres in accordance with regional needs. In addition, the plan envisages a rigorous scheme for the professional preparation of those entrusted with training functions. Generally, it advocates the establishment of a school and university guidance system allowing the rational channelling of pupil and student flows in accordance with social and economic goals and national needs, but based upon ability and aptitude.

In the medium term the task is essentially to achieve the already mentioned goals of Arabization, Algerianization, democratization, and industrialization. For primary education, the main task is the definitive establishment of the nine-year basic school. In secondary education, it is the setting up of structures linking the basic school and the university; this is a key area decisive for Algerian education as a whole. In higher education, the task is to iron out internal anomalies and achieve greater effectiveness by matching training profiles with economic needs.

The long-term aim is to produce, from institutions that necessarily evolved from the pressure of events and thus were not in equilibrium, a global system, organically integrated and providing cohesion within the framework of national planning. In the words of the National Charter:

The unification of education in Algeria will have the effect of abolishing the disparities in content, orientation, and outlets which at present create dangerous divisions and

prejudice the necessary uniformity of quality by an uncontrolled dispersion of material and human resources. Although the other categories of culture in Algeria may need to be improved or transformed in their ideological and intellectual content, education demands even more: a total reshaping; up-to-date teaching; a unity which precludes the existence of two parallel sectors; and men, options, principles, and educational content which are entirely new.

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American Samoa

R. M. Thomas

American Samoa, also known as Eastern Samoa, is a cluster of small islands in the South-Central Pacific Ocean, governed since 1900 by the United States of

America. Although the system of schooling in American Samoa generally follows the pattern of education found in the United States, the Samoan system warrants

separate attention because of the unique experiment conducted in the islands with instructional television during the decades of the 1960s and 1970s.

The indigenous people of Samoa are Polynesians whose ancestors arrived in the islands many centuries ago in ocean-going outrigger canoes to establish a society of clans headed by chieftains. Before Europeans arrived in the early nineteenth century, education in the islands was of an informal variety. Because Samoans had no written form of their language, children learned the belief system of their culture through a rich store of oral history and proverbs, and acquired vocational skills by participating with their parents in daily work assignments.

Formal schooling was introduced by pastors of the London Missionary Society who began in 1830 to establish churches and schools. The missionaries also developed an orthography for casting the Samoan language into written form so that the Bible and hymns might be printed in the islanders' own tongue. Methodist and Catholic missions soon followed, with the result that within a few decades virtually all Samoans were professed Christians, and a great number literate. The schools set up by the missionaries were staffed mainly by Samoan pastors and their wives. Classes were held daily in the church or the adjacent residence of the pastor, where children learned reading, writing, arithmetic, Christian doctrine, and some geography and history, all in the Samoan language. The pastors' schools continued to be the principal source of formal education throughout the nineteenth century and far into the twentieth century. Although today all children in American Samoa attend either a public or private school conducted in the English language, the traditional pastors' schools still exist, attended by many children in the early morning or late afternoon or during periods of vacation from the secular school.

During the period of colonial expansion of European and American nations into the Pacific, Samoan political affairs were often turbulent, with no single Samoan high chief able to gain secure control over the entire island territory. As a way to settle political matters, Germany and the United States divided the islands into two sectors separated at 171° longitude, with Germany taking the larger western sector where German commercial interests already owned plantations and the United States taking the eastern sector so as to maintain a coaling station for American ships in Pago Pago Bay.

Under separate Western powers, the two Samoas that exist today—Western and American—began gradually to diverge in their form of schooling. This divergence continued after 1914 when New Zealand took over Western Samoa from Germany during the First World War.

The United States Navy governed American Samoa from 1900 to 1950 and the Department of Interior from 1950 on. Secular schools were gradually established with English as the medium of instruction, thereby

supplementing the Samoan-language pastors' schools. In 1960 a United States congressional commission arrived in the islands to investigate charges that schools and other social services in Eastern Samoa had for many years suffered serious neglect. The commission reported in 1961 that school buildings were ramshackle affairs, teachers were poorly trained, the curriculum was unsuitable, and the opportunities for secondary education were very meager (Everly 1961). Other social services in the territory were judged equally inadequate.

The new governor appointed to remedy matters, H. Rex Lee, declared that the best hope for providing quality schooling lay in establishing a territory-wide educational television system. This decision inaugurated the Samoan experiment with instructional television.

1. The Era of Instructional Television

With millions of dollars supplied by the United States Congress, Governor Lee's staff arranged for the replacement of 50 dilapidated village elementary schools by 24 modern consolidated schools and for the construction of four modern high schools to replace the single high school left over from Navy days. The National Association of Educational Broadcasters from Washington DC was hired to design and operate an instructional television facility, so that by the mid-1960s the main lesson for each basic elementary-school subject was broadcast into all classrooms, grades 1 through 8, from a central television studio complex. The system's six broadcast channels also enabled educators to send daily lessons into selected secondary-school classrooms. By the end of the 1960s, when the television instructional system reached its peak operating level, there were 180 hours of lessons telecast each week. The studio and engineering staff had grown to 110 people, supplemented by writers and teachers who designed and presented the lessons (Schramm et al. 1981).

However, in the 1970s the trends of the previous decade began to shift. A variety of forces converged to reduce drastically the use of television, so by 1980 the classroom teacher was again the key director of children's learning, and television was used only occasionally as a supplementary medium of instruction, mainly for lessons in oral English. The forces included (a) a desire of educational leaders to suit instruction more to the individual talents of pupils, (b) an improved system of teacher training, and (c) shortages of funds which caused the virtual elimination of central studio staff members who earlier had produced a wide range of daily televised lessons that the system required. By the early 1980s the few remaining television programs were nearly all recorded lessons taped several years earlier. The era of the television centered instructional system had passed (Thomas 1980).

2. Structure and Size of the Education System

Prior to the early 1960s the public education system consisted of elementary and junior-high grades and a

single senior high school. During the 1960s and 1970s the educational ladder was extended downward to provide by 1980 over 130 village nursery schools attended by nearly 2,000 children aged 3, 4, and 5. By the early 1980s virtually every preschool child in the islands attended school five days a week, under the guidance of trained volunteers. The upper end of the schooling ladder was extended to postsecondary education at the American Samoa Community College, a junior college established in 1970 to offer courses leading to Associate of Arts and Associate of Science degrees. By the 1980s the college also included a Bachelor of Education program conducted in conjunction with the University of Hawaii.

A series of private schools, most of them representing the missionary tradition of the past, continued to operate in parallel to the public schools. As shown in Table 1, of the 11,873 pupils in the territory's early-childhood, elementary, and secondary schools in 1980, nearly 85 percent were in the public system. The teacher/pupil ratio in public elementary grades had decreased from 1:20 in 1975 to 1:17 in 1980 as the number of school-age children in the general population decreased slightly. In the secondary grades, the ratio in 1980 was 1:19. Although American Samoa continues to experience a rather high birth rate, the population of the islands, which has ranged around 30,000 for some time, does not increase substantially, since American Samoans are United States nationals and therefore have open access to migrate to the United States mainland, an option that a great many adopt.

In 1983, children in American Samoa's preschool programs totaled 1,715. The enrollment in elementary schools was 7,227 and in secondary schools 3,051. The proportion of male to female pupils was 53/47 in both

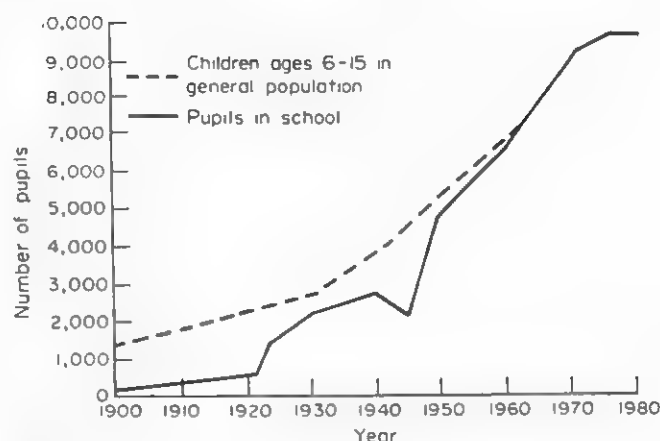


Figure 1
Enrollment in American Samoa's elementary and secondary schools, public and private, 1900-80^a

^a Sources: Annual reports of the governor of American Samoa 1922, 1927, 1960, 1971, 1980. Government of American Samoa, Pago Pago

elementary and secondary schools. There were 346 teachers for the elementary grades and 186 for the secondary. The teacher/pupil ratio in primary schools was 1:21 (UNESCO 1985).

Enrollment trends for elementary and secondary schools from 1900 until 1980 (Fig. 1) show that since the introduction of the instructional television system in the early 1960s, all children of elementary and secondary-school age have been enrolled in school.

3. Administration and Finance

The administrative responsibility for education is assigned to the territorial Department of Education, with the territorial governor the ultimate authority over the director of education, who serves as executive head of the department. A nine-person board of regents appointed from the Samoan community aids the director in policy-making decisions. By 1980 there were 95 people in the department's administrative and supervisory structure, representing 9 percent of the public education system's personnel, with the remaining 91 percent in teaching (65 percent) and support services (26 percent) (Coleman 1980 p. 78, *Think Children* 1980 p. 9).

The direct administration and finance of private schools is the responsibility of the organizations that sponsor them. However, all private institutions are required to adhere to government regulations applying to educational standards and access to schooling.

Education in the public sector is virtually free of cost to students, with the funds to support the system deriving from both territorial-government revenue and the central United States government. Funds for private

Table 1
American Samoa: Public and private school enrollments 1980^a

	Schools	Males	Females	Total
<i>Public schools</i>				
Preschools	130	971	981	1,952
Elementary (grades 1-8)	24	2,890	2,507	5,397
Secondary (grades 9-12)	4	1,268	1,159	2,427
Special education	1	60	43	103
Community college	1	(in degree programs)		900
(Adult continuing education at community college)				1,200
<i>Private schools</i>				
Elementary and secondary	8	869	1,125	1,994
Total	168			13,973

^a Source. *Think Children* 1980 11

schools are provided mainly by church organizations and fees charged to parents. The annual expenditure per pupil in the public system had risen in elementary schools from US\$344 in 1975 to US\$442 in 1980 and in secondary schools from US\$424 to US\$477 (Coleman 1980 p. 77).

4. Goals and Curricula

Since the early 1960s the central stated purpose of the schools has been to furnish an elementary- and secondary-school education that prepares each Samoan youth as "a fluent, literate bilingual in Samoan and English" who will "have respect for Samoan traditions and culture." Schools are to "prepare each individual for a personally satisfying and socially useful life wherever he chooses to live" (*Think Children* 1974 p. 5).

During the 1950s, when the public-school curricula focused chiefly on textbooks from the United States mainland, there was almost no attention paid to Samoan language or culture in the public and private secular curriculum schools. Under the television system of the 1960s Samoan culture continued to be neglected. But with the stimulus of funds from Washington DC for bicultural education in the mid-1970s, textbooks in the Samoan language and instructional units on Samoan culture were produced in greater numbers for use at various grade levels. The bulk of the curriculum, however, has focused on the same subjects studied in United States mainland schools, and the medium of instruction above the lowest primary grades has continued to be English.

5. Educational Personnel

Prior to the 1960s the top-level administrators in both public and private school systems were foreigners, whereas most teachers were Samoans, usually with little formal teacher education and a poor command of English. Then the television era brought scores of United States mainlanders to the islands, not only to staff the central curriculum-development and television offices, but also as elementary-school principals and high-school teachers and administrators. However, during the 1970s as the role of television in the schools diminished, the proportion of non-Samoan educators in the public school system was greatly reduced. Yet by 1986 mainlanders were still being imported to fill certain

administrative posts below those of the Samoan director and assistant directors of education as well as to assume classroom teaching duties.

By the 1980s, the chief source of new teachers for the islands' elementary schools was the teacher-training program of the American Samoa Community College. Secondary-school teachers usually were educated abroad.

6. Future Prospects

Over the coming years American Samoa's educational leaders face a variety of problems. One is the difficulty of achieving the bicultural goal of equipping all students to succeed in both Samoan and United States mainland cultures. By the 1980s this appeared to be an unreasonable expectation for most students. The solution is perhaps to reduce the level of this goal and to improve classroom instruction (Thomas 1981).

The task of acquiring and retaining skilled personnel will require that the teacher-training program and salaries paid to teachers and administrators be improved. This will require stronger financing. In the 1960s large sums were sent from Washington DC to support the educational television experiment. However, by the mid-1970s such federal monies had been greatly reduced. Therefore, by the 1980s educational leaders were pressed to attract further funding from both Washington DC and the territorial government in order to maintain the physical plant, support the bicultural materials-production program, and attract high-quality staff members.

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Angola

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The People's Republic of Angola is situated in southern Africa, roughly between latitudes 6° and 17° South. The total area of the country is 1,247,000 square kilometers

(481,342 square miles) and the estimated population (1983) is 7.5 million. Angola shares a common border with four African countries: in the northwest with

Congo, in the northeast with Zaire, in the west with Zambia, and in the south with Namibia. The major geographical configurations of the country are an extensive central plateau with an average altitude of 1,200 meters, a lower subplateau stretching north to south between the coast and the central plateau, and lowlands bordering Namibia in the south. The northern portion of the central plateau is thickly vegetated while the south borders with the Namib desert. Climatically, much of the country is tropical with temperatures between May and September in excess of 32°C. However, on the central plateau the climate is moderate with temperatures averaging around 20°C. Angola's main rainfall period lasts for six months between October and March.

There are eight main ethnolinguistic groups (Bakongo, Mbundu, Ovimbundu, Luanda-Tchokwe, Nganguela, Nyaneka-Humbe, Herero, and Ambo) and about a hundred tribal subgroups. Although an estimated 400,000 Europeans (mostly of Portuguese descent) resided in the country during the early 1970s, most of these left during the independence period (1974-75) so that only about 30,000 Europeans remained in the country in 1983. Although reliable demographic data are scarce, the estimated population growth rate was 2.4 percent per annum in the period 1970-79.

Angola's substantial natural resources make it potentially one of the richest countries in Africa. Significant deposits of copper, magnesium, iron ore, phosphate, granite, and diamonds exist in various parts of the country and large reserves of oil are being exploited in the Cabinda enclave in the extreme northwest. However, the mass exodus of technical personnel in 1974-75, the subsequent civil war, and the security problems in the early 1980s in the country's eastern and southern regions have constrained efforts to invest in and develop these resources. Consequently 70 to 80 percent of the total population remain in the rural sector, although agriculture's contribution to the total gross national product is less than 10 percent.

Angola is one of the few African countries to have maintained a balance of payments surplus during the 1970s—largely as a result of diamond and oil exports, which accounted for more than 90 percent of the country's export earnings in 1980. In 1983, however, the decline of world market prices for oil resulted in a substantial deterioration of the country's foreign exchange situation. Total exports are estimated to have declined by 30 to 35 percent between 1980 and 1981, at the same time as the country was forced to increase food imports dramatically to compensate for declining agricultural production. Table 1 summarizes economic data for Angola in the late 1970s.

Angola is a one-party state, with political power resting in the hands of the Popular Movement for the Liberation of Angola (MPLA). The MPLA has chosen a socialist model of economic development and subscribes to the political ideology of Marxism-Leninism. In prin-

Table 1
Economic indicators^a

GNP (1980)	US\$2.646m		
GNP/capita (1980)	US\$380		
Major exports, 1980	(%)		
Oil and oil products	80		
Diamonds	16		
Coffee	8		
Distribution of labour force, 1980	(%)		
Agriculture	59		
Industry	16		
Services	25		
Balance of trade (billion kwanzas)	1974	1977	1978
Exports	31.0	29.3	35.6
Imports	15.8	22.6	26.6
Balance	+15.2	+6.7	+9.0

^a Source: *New African Yearbook 1981-82*

ciple, this means a centrally planned economy with state ownership of the major means of production. In practice, however, the Angolan government has retained a substantial private sector, particularly in the country's manufacturing industry, and actively promotes joint enterprises in export industries and natural-resource exploitation. The commerce sector is government owned and all banks are nationalized.

The political and economic goals of national development are laid down by the MPLA's Central Committee and Politburo, and carried out by the government, which consists of a popular assembly, provincial assemblies, and a permanent commission. The latter, in turn, is made up exclusively of government ministers or members of the Party's Central Committee. Local assemblies are planned but have not yet (1982) been set up. In 1981, there were just over 31,000 registered MPLA party members and a further 78,000 members of the MPLA youth movement.

Government policy is formulated and presented at party congresses, two of which have been held since independence. The MPLA's first party congress in 1977 laid down the guidelines for national development in the immediate postindependence period. With 80 percent of the population at the time in the rural areas, priority was given to the development of the agricultural sector which, it was held, would provide the base for future industrial development. In the short term, attention was also focused on the development of oil resources and the fishing and construction industries, which were amenable to more rapid expansion than the agricultural economy and would support the development of the latter.

Special attention was given to the education of political, technical, and scientific cadres and to the elimination of illiteracy (estimated at 85 percent) in the adult

population. In relation to the sociopolitical goals of the ruling party, education was regarded as the most important instrument for creating a revolutionary and scientific spirit in the new generation. One of the first measures adopted by the independence government was to reform the structure and content of the colonial system of education inherited from the Portuguese.

The second party congress, held in 1981, sought among other things to specify the educational problems facing the country and to design a five-year development plan, which would deal with these problems. The almost total lack of qualified teaching personnel was seen to be the major obstacle to expanding the educational system and improving educational output. The training of teaching staff, therefore, became an educational priority in 1981 and efforts were made to enlist the support of popular organizations and the party structure to increase teaching staff in both formal and nonformal education programs. Of particular importance during the 1981–85 period is the creation of additional teacher-training facilities and equipment, the introduction of production into education at all levels, the recruitment of more adults for teacher-training programs, and the production of textbooks for rural schools.

During most of the colonial period, educational facilities were provided primarily to meet the needs of the Portuguese population, the majority of whom resided in Luanda and other urban areas along the Atlantic coast. In the interior, education was provided almost exclusively by Protestant and Catholic missions. In 1900, there were fewer than 10,000 Europeans in Angola, and as late as 1950, there were only some 75,000. Consequently Angola did not experience the rapid expansion of African education which occurred in other colonial countries during the 1940s. Official support for missionary educational activities was almost nonexistent and the colonial government made no effort to increase educational provision in the rural areas.

However, the mid-1950s coincided with the emergence of African nationalism in Angola in the form of guerrilla movements. One reaction of the Portuguese authorities to these threats was to attempt to strengthen the colonial economy and to provide increased social services, including education, for the African population. Over the next 15 years, the Portuguese population increased fourfold, a substantial manufacturing industry was established, primary schooling was expanded, and higher education was initiated.

At the same time the liberation movements began to provide their own educational services to the rural population and to establish schools in the areas under their control. Whereas the Portuguese educational system reflected the structure and content of schooling in the metropolitan country, the educational services provided by the liberation movements emphasized the practical application of theory to the problems of the rural areas, and the need to develop political awareness among the rural population.

1. Structure of the Educational System

At independence in 1975, the structure of formal education in Angola strongly resembled that of the Portuguese educational system. First-level education consisted of a one- or two-year preschool component and a four-year primary cycle (*ensino primario*). This was followed by a seven-year secondary cycle (*ensino secundario*), divided into three stages. From 1964, graduates from the secondary level could obtain higher education in Angola at undergraduate level. All postgraduate work was carried out in Lisbon. At the primary level, teachers were predominantly missionaries, whereas at the secondary level they were exclusively Portuguese. At all levels of the system, the language of instruction was Portuguese. Table 2 presents enrollment statistics for first-, second-, and third-level education in Angola in 1973 and 1977. The sharp decline in enrollments at the secondary and tertiary levels in 1977 resulted from the departure of almost the entire Portuguese population from Angola in 1974–75.

The present structure of the Angolan educational system is presented in Fig. 1. Primary education consists of a four-year basic cycle and two upper-primary components of two years each, a total of eight years, beginning at the age of 7. Five types of middle (or secondary) education exists: a two-year preuniversity course leading directly to tertiary education, and four 4-year streams specialized along technical pedagogical lines, that is, four different types of institute. The four-year programs can lead either directly to the labor market, for example, teachers produced by the pedagogical institutes, or to continuing education at the tertiary level. Typically, students enter secondary education at the age of 16 years.

Formal vocational training exists at presecondary level in the form of three-year training programs divided into a first and second stage. Students unable to continue beyond the sixth year of primary school can enter stage 1 of the technical training program and, after a one and a half year course, proceed on to stage 2. Students who do not go beyond the eighth grade of primary school can go directly to stage 2 of the vocational training system. These programs are also available for those who are already in employment but require additional or formalized vocational training.

A six-year (12-term) adult education program, beginning with literacy training in the first term, exists but

Table 2
Enrollments in formal education, 1973 and 1977^a

Level	Enrollments	
	1973	1977
Preschool and primary	532,942	1,126,688
Middle	71,815	4,161
Higher	4,400 ^b	1,109

^a Source: SIDA 1981 ^b estimate

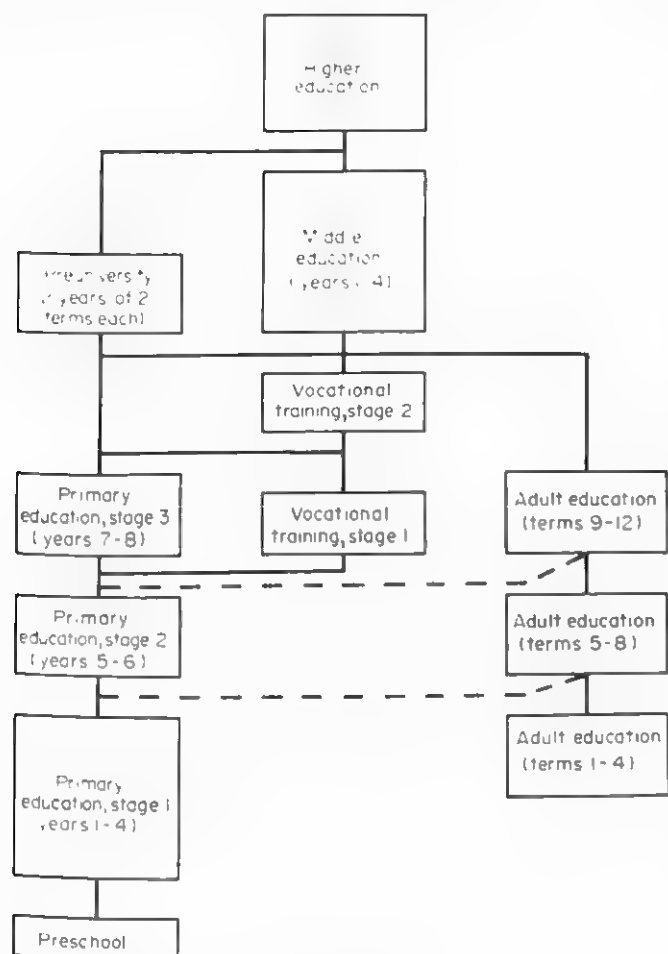


Figure 1
Structure of education system 1983

had not become fully operational by 1983. Access to adult education programs exists for dropouts from the formal school system and successful completion of the six-year course enables students to enter either the specialized or the preuniversity course of the formal school system. In this way, all levels of the formal and nonformal systems are linked and various avenues exist for obtaining secondary, tertiary, and vocational train-

ing. Education at all levels in Angola is free and compulsory for the first four years of primary school.

Higher education at the university level has existed in Angola since 1964, but it is only since independence that the participation of Angolan students has been significant. Seven faculties or institutes of higher education existed in 1983: in agronomy, medicine, engineering, natural science, economy, law, and education (teacher training). The three main campuses are at Luanda, Huambo, and Lubango. Table 3 summarizes enrollments, institutions, and teachers for different levels and types of education in Angola as in 1981/82.

2. Administration and Finance

The educational system in Angola is administered by a central Ministry of Education which has direct control over the primary and middle (secondary) levels. The ministry is also responsible for providing some vocational training but the latter is predominantly carried out and administered by other ministries in the form of either regular preservice courses or on-the-job training. There is, however, a directorate of vocational training within the Ministry of Education which coordinates the pedagogical and methodological aspects of vocational training programs provided by other ministries and corporations, that is, curricular and teaching aspects of such training. Thus, for example, vocational training programs are provided by the Building and Construction Ministry (in microbiology, hydroacoustics), the Transport Ministry (in telecommunications and for locomotive engineers, land surveyors), and so on.

In adult education, attempts have been made to decentralize the administration of the literacy component (term 1) so as to reach as many illiterates as possible. At the central level is the National Literacy Center which reports directly to the MPLA commission. At provincial and local levels, commissions also exist to coordinate the activities of the adult education program at these levels.

The lack of detailed information on educational finance in Angola prevents an analysis of recurrent costs, salaries and wages, capital expenditure, and the like. However, there are data reflecting the overall

Table 3
Numbers of enrollments, institutions, and teachers 1981-82^a

Level	Institutions	Enrollments	(% female)	Teachers
Primary (grades 1-8)	7,101	1,733,390	46	43,897
Secondary	30	5,135	49	539
Higher	7 ^b	2,666	16	374
Adult	3,214	1,050,607	n.a.	n.a.

^a Source: Ministry of Education, Luanda ^b Faculties

Table 4

Education budgets as a proportion of total state budget, 1978–82 (billion *kwanzas*)^a

Year	State budget	Education budget	Percentage
1978	66,452	6,698	10
1979	73,258	8,026	11
1980	93,269	10,297	11
1981	108,874	9,269	9
1982	102,380	10,004	10

a Source: African Development Bank 1983

allocation of resources to the education sector during the years 1978–83. Table 4 presents the budget information for education and compares it to total public expenditure between 1978 and 1982.

3. Teachers, Curriculum, and Examinations

Acute shortages of qualified teaching staff exist at all levels of the Angolan educational system. At the primary level, only some 10 percent of existing teachers are fully qualified, while at the middle and higher levels, heavy dependence is placed on expatriate teachers, especially from East European countries, Cuba, and Brazil. In the faculty of education in Lubango, for example, only two teachers out of a total staff of over 50 are Angolan.

In an attempt to meet the qualitative requirements for teachers, especially at the primary and middle levels, all teacher trainees are required to teach on a regular basis during their period of training.

Teachers being trained in the 12 pedagogical institutes at the middle level are also employed as teachers in adjacent primary schools during their four-year training period, while trainees in education at the tertiary level work simultaneously as teachers in the local middle school and even at lower levels within their own department or faculty. As primary schools operate on a double-shift system, teacher trainees typically attend courses for half a day and teach a regular class for the other half—which, it is felt, contributes to low levels of achievement and high dropout rates within the pedagogical institutes.

An additional factor which reduces the output of trained teachers to all levels of the educational system is military conscription, which is mandatory for all 18-year-olds. Because of the critical security situation in the country, deferments are, as yet, not granted for students. This means that most teacher trainees are required to interrupt their studies after the second year and many fail to return to complete the course after military service.

In 1982, enrollment in the country's pedagogical institutes totalled 2,599 while that at the educational faculty was 160. However, since all teacher trainees are already employed as teachers during the training period, output

at the end of the period does not result in a net addition to the stock of teaching staff. Moreover, high wastage rates from these programs result in increasing numbers of unqualified teachers being retained within the school system, and point to the need for a major upgrading and inservice program in the future.

Responsibility for the development of primary- and middle-level curricula and teaching methodology rests with the Center of Pedagogical Investigation (*Centro de Investigacao Pedagogica*) located within the Ministry of Education. This center is also responsible for the development of learning materials, such as subject textbooks, of which there is a critical shortage. At the primary level, the curriculum covers the full range of social and natural sciences and places particular emphasis on language instruction as many children are unable to speak Portuguese, which is both the national language and the language of instruction in all schools, when they begin their education. To as great an extent as possible, the content of courses in the natural and biological sciences reflect conditions in the local environment and employ examples which students are able to recognize. At all levels, the curriculum is uniform throughout the country.

The implementation of effective teaching methodologies is hampered by the low level of training within the teaching corps and, at the middle level, by the large proportion of expatriate teaching staff. At the primary level, where Angolan teachers predominate, basic communication between teacher and student is frequently a problem because of language difficulties. Between years 1 and 4, staff are required to teach the entire curriculum, whereas from year 5 each teacher is responsible for one or two subjects only. Within the classroom, teachers tend to employ traditional methods and heavy reliance is placed on textbook content and the questioning of individual students.

Within each of the three stages of primary education, promotion is automatic, although pupils are evaluated at the end of each year. Progression from one stage to the next is by examination. In order to reduce the effects of repetition on available capacity in each stage, a maximum age limit is associated with each stage. Thus, students can repeat stage 1 (the first 4 years) until the age of 12, stage 2 until the age of 16, and stage 3 until they are 18 years of age. Failure to meet these limits results in students dropping out, going over to vocational training courses, or joining adult education programs, depending on their ability, age, and inclination. Access to preuniversity middle education is on the basis of achievement in the grade 8 primary-school examination. The remaining grade 8 school leavers go into one of the four-year technical or pedagogical streams at the middle level. Information on progression rates within the primary cycle and between primary and preuniversity levels indicates that some 50 percent of stage 1 students go on to stage 2, 54 percent from stage 2 to 3, and 64 percent from stage 3 to the preuniversity level.

4. Educational Research

Except for the curriculum development and textbook-design work being carried out by the Ministry of Education's Center of Pedagogical Investigation there was virtually no systematic research in education by 1983. Priorities in the education sector are meeting the quantitative requirements for teachers, facilities, and equipment at all levels. This also applies to educational training at the tertiary level, where over 90 percent of the teaching staff are expatriates and where the main concern is with producing Angolan teachers for middle-level education.

However, the need for systematic educational research in the future is recognized and the framework within which it is intended to carry out such research is presently being set up. This is the Organization for Scientific Research (OSR), a centralized facility which will cater for the research needs of ministries and the various economic sectors. The organization will be a coordinating body in which the Ministries of Education and Planning will have a key role. Although formally responsible to the MPLA and the popular assembly, the organization will have its own national council, composed of representatives from various research institutes and university-level faculties in the country. On the basis of policy laid down by the MPLA, both national and sectoral research themes will be identified and the individual research institutes will be responsible for carrying out the work. This implies a future research function for the faculty of education.

5. Major Problems

Angola is a country which has been in a state of virtual civil war since independence. Having inherited one of the least developed educational systems in colonial Africa, the country's economy and infrastructure was paralyzed by the sudden departure of almost the entire stock of trained personnel in 1974–75. The situation is particularly acute with regard to trained Angolan teaching staff, who are virtually nonexistent at the middle and higher levels of the educational system.

If the country is to realize its long-term economic potential, the immediate educational requirements are for middle-level technical and managerial personnel

to reactivate Angola's modern sector—particularly the existing manufacturing and export industries. This implies, in turn, a rapid expansion of middle-level education, where enrollment is only 5,000–6,000 students. A prerequisite to such expansion is increased output of teaching staff from the tertiary level. At the same time, however, increased attention must be directed towards expanding existing vocational training programs, especially those which can be carried out on the job.

The two major constraints on achieving these immediate goals are, first, the continued security problems in the country and the consequent need to devote increasing resources to defense expenditure and, second, the limited access which Angola has to international development funds and technical assistance from such organizations as the International Monetary Fund, World Bank, and the European Economic Community.

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Antigua

M. McLean

Antigua gained political independence from the United Kingdom in November 1981. It inherited a colonial educational system which had provided widespread elementary schooling for the majority of the population but which did little to train the higher level labour force needed by an independent state. Efforts to extend

education beyond elementary levels are likely to be frustrated by the small population of the country as well as by the precarious position of its economy.

The country consists of two small islands 40 kilometres apart. Antigua has an area of 280 square kilometres (102 square miles) and contains 98 percent of

the population. Barbuda covers 167 square kilometres (64 square miles) and is much more sparsely populated. The total population in 1981 was 76,000, and there was an annual growth rate in the late 1960s of 1.3 percent. The population density in Antigua was 271 per square kilometre in 1981 and about 40 percent of the population was urban.

The people are descended mainly from slaves imported from Africa in the eighteenth century. English is the official language and, in a variety of creolized forms, is the language of everyday usage. The dominant religion is Christianity with the Anglican church having the largest membership, though the other Protestant sects and Roman Catholicism have important followings. There is a high degree of cultural cohesion among the people.

The standard of living of the people is a little below the average for the Caribbean islands. The per capita gross national product (GNP) in 1980 was US\$1,270, which was very similar to that of Jamaica. The work force traditionally was employed mainly as unskilled labour on sugar or cotton plantations (which Antiguans often combined with agricultural smallholdings or fishing). There were also clerical and administrative occupations linked to this export-orientated agricultural economy. In the 1970s, more people were employed in services linked to tourism and in the small but growing import-substitution manufacturing sector. Attempts to diversify from a precarious plantation economy have required a greater range of occupational skills. But there are skill shortages, an unemployment rate of about 17 percent in 1980, and considerable underemployment especially in agriculturally linked occupations.

From the seventeenth century, the commercial production and export of sugar was the basis of the Antiguan economy. However, prolonged drought from the mid-1960s together with low world-market prices led to the decline of the industry and its cessation in 1972, following an independent report commissioned by government. Attempts were made after 1972 to develop cotton as an alternative export through government investment. Cotton became the island's main crop. But there are problems associated with picking the crop, which is not mechanized, and eradicating plant parasites. Cotton is not a secure basis for the island's economy.

Tourism developed in the 1960s and 1970s and by 1980 accounted for 40 percent of GNP. However, this activity is regarded as an insufficient single base for the economy, and government has invested in agriculture and fishing and has provided fiscal incentives to develop manufacturing, which has expanded from a very small base. However, these programmes are inhibited by unfavourable natural conditions for commercial agriculture and the small internal market for manufactured goods.

The economy of Antigua expanded in the 1970s. The annual rate of growth of GNP at constant prices was 7.7 percent in 1978 and 1979. Government investment

together with the growth of tourism were in part responsible and also helped to bring down the high unemployment rate. However, the economic structure of Antigua has major weaknesses. Government plans to develop agriculture and industry depend in part on the educational system contributing to the development of a greater range of skills in the population.

Antigua was a British colony until 1981. The country gained internal self-government in 1967, with the United Kingdom responsible only for external affairs and defence. The prime minister and cabinet were appointed by the governor (who was chosen by the United Kingdom government) but required the confidence of the popularly nominated Senate and an independent judiciary. This governmental system, which is modelled on the United Kingdom parliamentary system, has survived political independence.

The Antigua Labour Party held the majority in the local assembly from 1946. In the 1971 elections, however, the Progressive Labour Movement won a majority. The Antigua Labour Party returned to power following the 1976 elections and maintained power after independence was achieved in 1981.

1. Structure and Organization of the Educational System

The goals of education are to develop skills necessary for a more balanced economy and to achieve greater equality of opportunity. In this, the Antiguan government proclaims similar objectives to those of other smaller, Anglophone Caribbean islands.

The educational structure has three stages. Primary schools have seven grades for children aged 5 to 12. Secondary schools provide education for pupils aged 12 to 17 in five grades. The State College has branches in preuniversity upper-secondary education, teacher training, and vocational studies in engineering, commerce, and hotel and catering as well as university extramural classes. Full higher education is not provided in Antigua.

The school system in the late 1970s was in the process of transition from one of selective secondary education to open-access comprehensive schooling. The old arrangement was that all pupils would follow the primary course for seven grades. Those who reached a sufficiently high level in the primary-school examination arship to a five-grade secondary grammar school. Those who were not selected would complete their education to the age of 14 in three postprimary grades, which were usually attached to the primary school. This system survives in some areas while in others all pupils are transferred automatically to comprehensive secondary schools. In 1978, there were 2,591 pupils in the first three grades of public and private secondary schools compared to 1,659 in the three postprimary grades. Selection is being eliminated but still affects many pupils.

The processes of transfer from primary to secondary schooling were modelled on those which prevailed in the United Kingdom before the 1940s. The age of beginning school—at 5—also reflects United Kingdom practice, as does the arrangement whereby pupils in the first two grades of primary education are taught in separate “infant” departments attached to primary schools.

Education has been compulsory for children aged 5–14 since 1890. It is also free. Universal primary education is well-established, as can be seen from the adult literacy rate, which reached 89 percent by 1960. But opportunities outside the 5–14 age range are limited. In 1978, there were only 281 pupils in preprimary schools (all government-supported private schools) compared to 2,716 in the first two grades of compulsory schools. The survival of the selective secondary system meant that the majority of pupils were excluded from full secondary schooling—a situation that only began to change in the 1970s. But all Antiguan students are affected by the lack of facilities for higher education on the island and the need to travel abroad—to the United Kingdom, North America, and to the University of the West Indies in other Caribbean islands—for higher studies.

Although education is only compulsory up to the age of 14, around two-thirds of pupils leaving primary schools in 1973 stayed until the end of the five-year secondary course. The major obstacle to completion has been the allocation of about one-third of all primary-school leavers to the three-year postprimary classes rather than to secondary schools. There are more serious barriers to entry to upper-secondary and higher education. There were only 500 or so students in two-year upper-secondary courses in 1978, compared to about 1,800 in grades 4 and 5 of secondary schooling.

Schooling is provided in both government and government-supported private schools. In 1978, 22 percent of primary-school pupils and 21 percent of secondary students were in private schools. The major role of the private schools reflects the considerable place religious mission schools formerly occupied in the Antiguan educational system.

Nonformal education has little place in Antigua though there are traditions of on-the-job training provided by employers for their workers, which has assumed a greater importance with government intervention in the 1970s to foster economic development.

2. Administration

The administration of education is centralized. The Ministry of Education and Culture allocates resources, appoints teachers, decides the content of the curriculum, and regulates examinations, apart from the final secondary examinations, which are controlled by the Universities of Cambridge and London in the United Kingdom. Educational legislation must be approved by the House of Representatives, to which the minister of

education and culture, who is a member of the Cabinet, is responsible. There is also a National Advisory Council of Education to advise the minister. Though the power of the ministry is not devolved to any local authorities, it is modified by the influence of representative institutions.

In 1978, 15.2 percent of government recurrent expenditure was devoted to education (total spending on education was 10.9 percent of total government spending). Recurrent educational expenditure was 3.1 percent of GNP (total spending on education was 3.3 percent of GNP). Both sets of figures were lower than the average for the Caribbean islands. Only in Haiti were the percentages of both total government spending and GNP devoted to education lower than in Antigua, where the proportions have fallen since the mid-1970s (in 1976, 18.6 percent of current expenditure and 4.7 percent of GNP were allocated to current educational spending). Educational reforms have not been matched by proportionally increased allocations of resources to education.

Of the government current expenditure on education in 1979, 35 percent went to primary education and 35.7 percent to secondary schooling. This represents a shift in priorities from 1970, when only 27.3 percent was spent on secondary education and 63.6 on primary. The proportion spent on higher education was very low by international standards, at 8.1 percent, though it was only 2.4 percent in 1970. This low proportion is consistent with the very limited provision of higher education for Antiguan students.

About 10 percent of total expenditure on education came from the contributions of private bodies—mainly religious—to private schools. This is a high proportion, considering that these schools are also government supported and provide schooling for only 22 percent of all pupils.

3. Teaching Personnel

The pupil-teacher ratio in primary and postprimary classes was almost 40:1 in 1978. It was worse in government schools (41.5:1) than in private schools (29:1). The ratio in secondary schools was 17:1 (16:1 in government schools, 20.8:1 in private schools). There is a great shortage of teachers and consequently overlarge classes in primary schools—surprisingly, in a country which has had effective universal primary schooling for a long time.

There is also a great shortage of trained teachers. Almost 27 percent of primary teachers in government schools in 1977–78 were untrained. The proportion was even greater in government secondary schools, at 39 percent. Thirty percent of government secondary-school teachers had neither a university degree nor any professional training. In the private schools, the position was much worse. Some 74 percent of primary-school teachers and 71 percent of secondary-school teachers were untrained. In private secondary schools, 55 percent

of teachers had neither a university degree nor teacher training. Unlike some other former United Kingdom islands in the Caribbean, teachers in Antigua are overwhelmingly Antiguan in nationality (97 percent in government schools and 83 percent in private schools).

Primary-school teachers are trained in two-year courses at the State College, though the level of education given is only of upper-secondary standard. While traditionally it was expected that secondary teachers would be university graduates, only 23 percent of government secondary-school teachers and 19 percent of private secondary-school teachers in 1977-78 had university degrees. With limited provision for higher education in Antigua, there are major obstacles to raising the general educational level of primary- and secondary-school teachers.

4. Curriculum and Examinations

The content of the school curriculum is decided by the Ministry of Education and Culture and the regulations apply to all schools of the same type. Religious education is compulsory, following the United Kingdom pattern. The emphasis placed on different subjects is affected by the importance given to them in primary- and secondary-school examinations. The primary-school examination gives greatest emphasis to English and mathematics with all other subjects—history, geography, science—being tested in one paper. The curriculum emphasizes the basic skills of literacy and numeracy.

The postprimary curriculum is a little broader. Students take health science, general science, and social studies as well as English and mathematics. Some specialization is encouraged by the requirement that students need pass only in three subjects. In 1978, 32 percent of all candidates gained passes in general science compared to 18 percent in health science and English, 17 percent in social studies and 13 percent in mathematics.

The secondary-school curriculum is geared towards the General Certificate of Education (GCE) Ordinary (O) level of the Universities of Cambridge and London. These examinations allow candidates to take any number of subjects. The relative numbers of candidates for each subject gives a rough indication of the balance of the curriculum in secondary schools. In 1978, the most popular subjects were English language (384 candidates); biology (335); West Indian history (327); English literature (252); geography (207); mathematics (150); and chemistry (98). There was as strong emphasis on literary subjects and biological sciences. Modern languages were neglected (French 71 and Spanish 23) as were pure sciences (physics 31) and vocational subjects (food and nutrition 64, commerce 24, woodwork 9). Among literary subjects, while West Indian history was prominent, United Kingdom-oriented subjects, especially English literature, had an important place.

Overall, the primary-school curriculum focuses on the basic skills while the secondary curriculum, in prac-

tice, is geared narrowly towards literary subjects and biology to the exclusion of scientific and technical studies.

There are three main types of examination, which are taken at the conclusion of each level of schooling and which determine pupils' chances of further study. Internal, year-by-year assessment has little place in promotion. The primary and postprimary examinations are run by the Ministry of Education but have colonial origins and are very similar in character to examinations set in many parts of the British Empire. The secondary-school examinations are controlled by the University of Cambridge (and, to a much lesser extent, the University of London) in the United Kingdom.

The primary-school examination is uniform throughout Antigua and has been used to select pupils for secondary education. In 1978, almost all primary-school leavers took the examination but only 34 percent were selected for secondary schooling. The major obstacle to success was the English component, which only 32 percent passed compared to 43 percent in mathematics and 53 percent in the general paper. The postprimary examination is used both to select pupils for late entry to secondary schools and as a qualification for employment. However, while about 17 percent passed the examination in 1978, only 8 percent gained entry to secondary schools by this means. In both examinations, there was little difference between the performance of children in government and private schools.

The GCE O' level examination is also a major selective mechanism. While the majority of pupils completing the secondary course take this examination, the average pass rate in 1978 was only 39 percent. Furthermore, only 30 students out of over 1,000 taking the examination gained passes in five or more subjects, the usual requirement for courses leading to university-level higher education. The numbers taking the GCE Advanced-level examination, which is the entry qualification for universities, were very small. Only 26 students in 1978 entered in the two or three subjects required, and only 3 passed. This examination very severely restricts entry to universities abroad and the small numbers entering and passing reflect the very underdeveloped nature of upper-secondary education in Antigua.

5. Major Problems

Antigua has an educational system which is very representative of the British West Indian colonial model. Universal elementary schooling has been a reality for a long time—an achievement not matched by several countries with a higher level of economic development than Antigua. But postelementary education is more sparsely available. The restriction of secondary education to a minority can be explained in terms of the United Kingdom colonial influences. Secondary education began to be democratized after self-government was attained. But upper-secondary and higher edu-

cation is still very limited. The obstacles to the expansion of higher levels of education are more intractable as they are linked to the small size of the country and its population. Without some kind of international cooperation, it is difficult to see how these obstacles can be overcome.

The lack of a complete and self-sufficient educational system in Antigua may be one of the constraints on the improvement of quality in schools. Lack of trained teachers in schools and of a dynamic curricular reform can be related to the lack of teacher-development institutions.

The colonial educational legacy is dysfunctional not only to the new political status of Antigua but also to changed economic conditions. The colonial educational system, which largely survives in Antigua, borrowed much from English practice and was, historically, economically functional. Schools gave an elementary and lower-secondary-level literary training to future clerks and low-level administrators in an agricultural-export economy. This export economy based on monoculture

has collapsed, yet the educational system has not changed sufficiently to provide the skilled labour force required in a more diversified and sophisticated economic structure.

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Argentina

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The Republic of Argentina stretches over more than 2,800,000 square kilometres (725,201 square miles) from the highest Andean peaks, across the rich pampas, to the great eastern rivers north of the capital Buenos Aires and to the Atlantic Ocean further south, in the southern cone of Latin America. Approximately half this vast area is a scarcely populated, semiarid desert.

From north to south, continental Argentina covers 3,800 kilometres (2,361 miles). Argentina also stakes a claim to the Malvinas (Falkland) Islands, South Georgia, and the Sandwich Islands, which cover an extensive, windswept, and barren archipelago. The question of their sovereignty provoked hostilities with the United Kingdom in 1982.

The population of Argentina, according to the 1980 census, numbers 27,863,000 inhabitants, having nearly doubled its population since 1940. The population growth in the twentieth century is largely due to vast migratory movements around the turn of the century. In 1900, there were approximately 4 million inhabitants in the country. This number doubled twice to reach nearly 16 million by 1947. By 1980, the growth rate had slowed down to about half this pace, as immigration halted and urbanization rapidly increased. In 1900, half the population was urban and half rural. In 1980, four-fifths (79 percent) was urban and only one-fifth (21 percent) rural. Nearly one-third of the entire population is centred in the greater Buenos Aires area.

Argentina is the most European of the Spanish-speaking Latin American countries, over 90 percent of the population being of Spanish or Italian origin. The rem-

nants of nomad tribes were reduced to insignificant numbers in the vast peripheral areas during the second half of the nineteenth century. There was no important native culture comparable to that of the Aztecs or the Incas, though the northwest was subject to Inca rule, and in the northeast the famous Guarani Indian missions flourished, reaching high cultural levels under the Jesuits for just under two centuries until the Jesuits were expelled in 1767.

The economically active population, including females, is highly concentrated, according to the 1970 census, in the tertiary sector (47.5 percent). Another 29 percent is to be found in the secondary sector, and only 14.8 percent in the primary sector.

Employment is distributed in almost equal parts among sectors of high (32 percent), middle (35 percent), and low (33 percent) productivity, even though 83 percent is concentrated in urban areas and 17 percent in rural areas. As might be expected, a higher proportion of the low-productivity sector is rural, whereas the middle-productivity sector is predominantly urban (Llach 1977).

Argentina's economic problems are enormous and all but impossible to summarize. From being Europe's bread basket until the Second World War and one of the largest prime-beef exporters in the world, from having one-third of the world's wheat production in 1913 and one of the five most extended railway systems in the world, the country is, in the 1980s, suffering a gruelling combination of hyperinflation and recession as a result of a series of clumsy industrialization projects

together with inept political leadership and consequent military rule.

However, total agricultural production doubled between 1940 and 1980. Industry has evolved since the Second World War from being oriented almost entirely to the production of consumer goods in order to satisfy the local market, to having an increased production of intermediary goods such as paper, chemical products, and industrial machinery (the latter having doubled since 1950).

One car per eight inhabitants is being produced. There are over 5 million cars and trucks and over 8 million television sets. The merchant navy has a capacity of 3 million tons and the railway extends over 34,100 kilometres (21,189 miles). In all there are 1 million kilometres of roads, 46,000 kilometres (28,584 miles) of which are paved.

Exports amounted to US\$8,000 million in 1980, which included over 22 million tons of grain, a bumper crop, as the average for the preceding five years had been 18 million tons. Imports in recent years have been below exports, but in 1980 they soared to US\$10,584 million. Export growth per annum from 1975 to 1980 was around US\$1,000 million.

In 1979, per capita income reached US\$2,230, then the highest in Latin America. This figure was certainly distorted, given the artificial system of currency control. Devaluations since 1979 have reduced this figure to about one-third of its dollar value.

Finally, to complete this brief outline of Argentina's economic situation, it should be said that since 1976 hyperinflation has dominated the economic scene, successive attempts to reduce it having failed. Since 1980, a deepening recession and increasing unemployment together with constant hyperinflation, plus a huge foreign debt (US\$34 billion in 1982) have led to an extremely precarious economic and social situation.

Politically, the country is no less unsettled. From 1915 to 1955, Argentina was ruled in turn by Conservatives (largely upper class), radicals (middle class), and Perónists (lower class). Each in turn encountered crises and was ousted by the military. Since 1930, with only brief exceptions, the country has been governed by a wide variety of military leaders, responding to the interests of different social strata or sectors. Since 1955, the basic political issue has been between Perónism and anti-Perónism, the military being found on both sides. The Perónists in 1982 held the largest electoral vote.

Perón ruled the country from 1946 to 1955, when he was ousted by his fellow military. After a period of military dictatorship, elections were held again in 1958, when President Frondizi won. He governed until 1962, only to be removed, as was his successor, also a radical, in 1966. The military then took over the government. When, finally, it failed to solve Argentina's economic and social problems, elections were called in 1973, for the last time to date (1982), with the spectacular comeback of President Perón after 18 years in exile. After

his death in 1975, his wife and vice president, Isabel (María Estella) Perón, took his place until her regime crumbled through incompetence and the paralysing effect of the subversive movement which unleashed the most extensive guerrilla war of modern times in Latin America.

The military easily ousted Isabel Perón in 1976 and undertook the task of fighting the guerrillas in a bloody civil war until they were completely eliminated. The government, known as the government of the "National Process", has acknowledged that many people disappeared during the war but has been unable to account for them.

In 1983 national elections were held again. Raúl Alfonsín (Radical Party) was a clear winner. His major accomplishments during his first two years in office were a Peace Treaty with Chile, the trial of the previous presidents responsible for the "dirty war", and the "austral economic stability plan".

Throughout the periods of post-Perónist military rule, not only has popular participation been absent from government decisions, but educational autonomy, particularly at the university level, has been denied to state institutions, and only very limited autonomy granted to private secondary schools and universities.

Few changes have taken place of any substance under military rule. Probably the most important was the recognition of freedom of educational choice in 1956, when private universities were permitted to exist, without state support, and subsidies were granted to private primary and secondary schools.

A serious effort was made in 1969 to reform the entire system of primary and secondary education. But its only lasting effect was the transfer of teacher education to the postsecondary level. Ten years later, an important move was made to decentralize the administration of primary state schools, which resulted in their being handed over to provincial governments.

1. Goals of the Educational System

The objectives of the educational system are officially stated in terms of the ideal of integral education. Thus, it is said that the objectives of the system cover the psychophysical, intellectual, aesthetic, social, civic, professional, and ethical aspects of the individual, taking both personal vocation and the common good into account. In other words, educational objectives are stated in such terms as to allow for the broadest possible interpretation, given the fact that at least equal access to primary schooling has already been achieved from a quantitative point of view. A particular effort is currently being made to reduce the number of primary-school dropouts, which ranges between 40 and 50 per cent of the national school cohort, but reaches much higher levels (over 70 percent) in the peripheral provinces. At present, emphasis is being placed on the democratization of the system.

Table 1
Total numbers of students by levels 1940-80^a

Level	1940	1950	1960	1970	1980
Preprimary	3,135	32,745	84,601	229,025	526,964
Primary	1,072,570	2,272,108	2,947,666	3,648,057	4,217,992
Secondary	153,918	323,584	563,087	980,558	1,366,444
Higher	41,086	85,927	173,935	293,302	525,688

^a Sources: *Ministerio de Cultura y Educación, Informaciones Estadísticas*, 1979; *Ministerio de Cultura y Educación, Estadísticas de la Educación*, 1981

2. Structure and Size of the Educational Effort

The structure of the formal system includes preprimary school for the 3-5 age group, obligatory primary school for the 6-12 age group, and secondary school for the 13-19 age group, which is a 5- or 6-year programme prior to university. Table 1 presents enrolments from 1940 to 1980 for each level of education.

Attendance at preprimary school is not obligatory and only involves 7.5 percent of the age group. There are 6,435 schools with 430,916 pupils; all are located in the large cities. The social background of the pupils is mostly upper and middle class.

Primary schools are spread all over the country. In 1977 they were attended by 111 percent of the age group. Though plagued by a heavy dropout rate, the growth rate is constant. In 1940, approximately 2 million pupils were enrolled. It took 10 years for that figure to increase by 50 percent and another 10 years to double. But after 1960 the rate increased, reaching an additional million students every six or seven years.

The state directly supports 83.6 percent of these schools; the remainder are private. Most pupils attend for either morning or afternoon sessions only. Nearly

one-third of pupils are located in the greater Buenos Aires area (30 percent). A similar number can be found in the three largest provinces of Córdoba, Buenos Aires, and Santa Fe (30 percent) and the remainder among the 20 other provinces (40 percent). These figures alone indicate the basic population structure of the country, which is so highly centred on Buenos Aires and its rich neighbouring provinces.

The percentage distribution of pupils by grade is given in Table 2. It indicates that grade 1 is on average twice as large as grade 7.

The secondary school was traditionally a university-oriented five-year course leading to the *bachillerato*. By the beginning of the 1980s, it had become more diversified, including three major streams: *bachillerato*, commercial, and technical, covering 44 percent of the age group. The total size of secondary-school enrolment practically doubled from 1940 to 1950, when it reached 325,584. In the subsequent two 12-year periods, it doubled twice to total 1,208,563 students in 1974. It then expanded at a slower pace, reaching 1,366,444 students in 1981.

All secondary streams are university oriented. Paradoxically, although agriculture is so important in the country, there are only 20 agrotechnical schools. All secondary schools have a three-year basic curriculum plus two or three years of specialization. There are other streams such as technical or professional schools, but these are insignificant in terms of student size. Within a particular curriculum, no optional subjects are offered.

Higher education is divided between university and nonuniversity education. The latter is usually obtained at a four-year teacher-training institution; over 90 percent of the students are women.

University education comprises five- to seven-year study plans, none of which offer subject matter options. There are 25 large state universities and 20 much smaller private universities. These are organized in traditional faculties, following the Napoleonic model. New initiatives are the establishment of business and agricultural faculties and the Technical University which dates from Perónist times and trains technical engineers. This institution provides access to higher education for graduates from technical secondary schools.

Table 2
Percentage distribution of pupils by grade and sex in primary schools 1970-77^a

Grade	Sex	1970	1975	1976	1977
1	M	21	20	20	20
	F	21	19	19	20
2	M	17	17	17	16
	F	17	16	16	16
3	M	15	15	15	15
	F	15	15	15	15
4	M	14	14	14	14
	F	14	14	14	14
5	M	12	13	12	12
	F	12	13	13	13
6	M	11	12	12	11
	F	11	12	12	11
7	M	9	10	10	10
	F	10	11	11	11

^a Source: UNESCO 1981 *Statistical Yearbook*. UNESCO, Paris, p. 272

The total number of students in higher education reached 525,688 in 1980, of which 76.5 percent were university students. The enrolment rate per 100,000 inhabitants in 1977 was 2,380 students. The number of students increased 10-fold from 1940 to 1980.

Argentine university faculties vary broadly in quality, reaching the highest academic standards in medicine and law. Next in rank are engineering and chemistry, though in these fields the cost of sophisticated modern equipment is a constraint on quality.

Research is conducted within the universities but also in state-supported institutes such as the *Instituto nacional de tecnología industrial* (INTI) and the *Instituto nacional de tecnología agropecuaria* (INTA) which are national institutes for industrial and agricultural research and the Atomic Energy Commission. The last has a vast network of educational and research institutes that give the country a leading position in the development of peaceful uses for atomic energy.

Adult education programmes cover a variety of flexible models, including recuperative primary schooling, community and aboriginal education and skill training, and formal secondary education. It should be noted that illiteracy has been much reduced to approximately 5 percent of the population, existing in significant numbers only among adult peasants in remote provinces. Formal primary schools for adults do not have their own buildings and can be found in slums, factories, labour unions, or rural areas. They usually involve some form of contract with labour unions. Community schools function in marginal areas of the country and cover a wide spectrum of skill training and community development. They are partially run by local municipalities. Adult education centres for aboriginals are similar to these except that they are coordinated by the *Consejo nacional de educación técnica* (CONET) and the Directorate of Agricultural Education.

At the private level, there are many kinds of educational initiative, mostly unconnected to one another and related to parishes or religious organizations. Particular mention should be made of the *Instituto de cultura popular* (INCUPU), one of the largest Latin American radio schools, which uses multimedia and covers most of the northern provinces. Its radio audience is estimated at 1,200,000 inhabitants. This institution provides a wide variety of educational opportunities such as literacy training, health programmes, and religious and agrotechnical instruction.

The total number of students attending institutions that are not within the mainstream of formal education was 353,550 in 1982, nearly two-thirds of which were women.

Other areas of education that do not depend on the Ministry of Education are schools for the mentally retarded and handicapped, which come under the Ministry of Social Welfare. Finally, the military forces (army, navy, and air force) have secondary-level academies. Most of these are run by the army.

3. Administration and Finance

The administration of the educational system is decentralized at the primary level, though not at the secondary or higher levels. At the primary level, the provincial governments administer and supervise state schools and in some provinces also private schools. Primary education throughout the country is coordinated by a federal council presided over by the national minister of education. The secondary level is centralized under the National Ministry with agencies supervising private, including some primary education—*Servicio nacional de enseñanza privada* (SNEP), technical education—*Consejo nacional de educación técnica* (CONET), and traditional secondary education—*Administración nacional de enseñanza media y superior* (ANEMS).

At the higher education level, the minister of education appoints the rectors of state universities and approves their budgets. Private universities receive no financial support, though curricula must receive state approval.

The central administration, directly under the national minister of education, includes two state secretaryships: one of education and one of science and technology. The secretaryship of education comprises two subsecretaries: one of education (primary and secondary) and one of university affairs.

A factual appraisal of investment in education is not easy anywhere, and in Argentina the difficulty is compounded by the fact that data are not readily available and because of the rapid and fluctuating process of currency devaluation and the varying forms in which educational finances can be estimated. However, general investment in education seems to have remained constant from 1970 to 1980 (see Table 3). The proportional investment in primary education increased slightly over the 10-year period. At the university level, there has been a change in the financing of research with the national research council, *Consejo nacional de*

Table 3
Percentage distribution of the education budget by level 1970-80^a

Year	Primary and secondary	University	Others	Total (million pesos)
1970	43.8	53.6	2.6	154.2
1971	45.6	51.7	2.7	208.6
1972	43.5	51.7	5.5	335.4
1973	50.7	45.5	3.8	484.2
1974	61.6	34.5	3.9	809.3
1975	55.3	34.1	10.7	1,920.0
1976	56.1	30.9	13.0	10,476.6
1977	46.8	26.4	26.8	30,738.9
1978	63.2	15.1	9.5	93,520.9
1979	60.0	30.8	9.2	235,437.1
1980	50.4	34.8	14.7	529,789.9

^a Source: Argentina 1981b pp.500-04

ciencia y tecnología (CONACYT), covering most university-research costs.

The figures in Table 3 do not include investments in private education which, at the primary and secondary levels, receives subsidies in the form of teachers' salaries in sums proportional to the amount of tuition costs covered by parents. All other private-education costs must be covered by tuition fees.

Finally, it should be noted that, according to national statistics, state educational expenditures in the 1970s, as a percentage of public investments, varied between 2 and 3 percent (Argentina 1981b).

4. Promotion

In primary schools, the decision whether a pupil should pass to the next higher grade at the close of the academic year is based on the teacher's evaluation of classroom performance in general, though supposedly promotion is automatic for the first three grades.

In secondary schools, promotion to the next higher grade is decided by subject field: students with average grades from classwork of 7 or more out of 10 in each specific subject do not have any form of examination. Students with grades between 4 and 6 must take a recuperatory course in December. Those with 3 or less must take yet another course in March (the academic year runs from March to December, with winter holidays in July).

Admission to university for a secondary-school graduate is subject to a university-administered entrance examination. This may differ widely from one institution to another and even within an institution. There are no nationwide examinations. Most examinations are oral; multiple-choice tests are rarely used.

5. Teachers

The total number of teachers within the formal system is officially 488,838; however, this figure does not represent actual teachers, but teaching positions. But this way of counting teachers is constant and previous figures are stated on the same basis (see Table 4).

Table 4
Percentage distribution of teaching positions by level 1971-81^a

Level	1971	1975	1981
Preprimary	3.4	4.3	5.2
Primary	52.7	48.9	44.6
Secondary	36.6	36.6	39.1
Higher	7.3	10.2	11.1
Total number	376,510	442,203	488,838

^a Sources: *Estadísticas de la Educación, Síntesis, 1971-1975*; *Estadísticas de la Educación, 1981*

It is impossible, however, to state whether there is a shortage or an excess of teachers. The only way to know how many teachers are required is to check waiting lists for teaching jobs, and these are highly decentralized. Although, until the 1970s, it was proverbial that supply far exceeded demand, it would seem that in the 1980s demand is being covered with no excess supply. Teacher-training schools were formerly attended mainly by women, but when these were moved to the post-secondary level the percentage of men increased and the supply to teaching jobs was much reduced.

Teachers' salaries are relatively low, as their jobs are generally regarded as being part-time.

Inservice teacher training is very poor and offers scarce incentives to prospective teachers. Their unions and professional organizations have all been hampered by military rule, which has eliminated the possibility of teacher participation in government decisions.

The basic problem with regard to teachers is qualitative rather than quantitative. Teachers are generally bureaucratically minded, afraid of encouraging student initiative, and more concerned with fulfilling given tasks than with educating people. Notable exceptions can no doubt be found. Some steps are being taken to improve the quality of learning in schools through inservice programmes, but these initiatives are still insignificant.

6. Educational Research

In the late 1960s and early 1970s, diagnostic reports were common at the provincial level and followed the pattern of personnel planning studies conducted at the national level. This trend has not been continued, and educational research has been particularly difficult to carry out, given the political conditions in the country during the middle and late 1970s.

There is no major research journal on education, and research is not encouraged at universities. No more than lip service is paid to educational research nationally, and financing for educational research is also hard to come by at the international level.

Yet, research is greatly needed. Some leadership has been provided since the 1970s by the *Centro de Investigaciones Educativas* (CIE), a private research centre. Recently, other provincial centres in Rosario and Córdoba have initiated research programmes. However, in spite of whatever educational research managed to achieve in the 1970s, it was still at an elementary stage of development at the beginning of the 1980s.

7. Major Problems

The main problems of the educational system in the 1980s are related both to the economic and political situations in the country and to the resulting process of stagnation within the educational system.

The toughest problem to be faced is that of an authoritarian bureaucracy which stifles initiative and dampens all attempts to achieve quality education. This

will have to be challenged at every level, from the universities to the primary schools, and will take many years to be overcome. At the preprimary level, probably the best in Argentina, facilities must be extended to low-income families, even though preprimary education need not be made obligatory. At the primary level, the dropout problem, particularly in distant rural areas, is a sign both of educational inefficiency and general underdevelopment. It requires not only investment in educational improvements but also rural development schemes.

The improvement of teacher training and adequate inservice programmes are the key to better quality education and also to better teachers' salaries in the long run.

At the secondary level, the encyclopedic *bachillerato* is not only outdated but does not train students to think autonomously, since much emphasis is currently placed on memorization. It also provides a very poor preparation for university studies. A complete overhaul of secondary education is needed.

At the university level, a quantitative expansion is needed, but more still a qualitative improvement, which implies freedom from government control and far greater curricular flexibility.

Methodology at all levels (except preprimary) leaves much to be desired, particularly with regard to the use of books and journals in libraries. This is probably the true key to the needed profound change in education. Even university libraries are practically nonexistent, let alone secondary-school or primary-school libraries. A great step forward must be taken with regard to the

provision of reading materials within educational institutions.

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Australia

P. McKenzie

Australia is a wealthy industrialized democracy and its educational system shares many of the features and concerns of educational systems in similar countries. However, its history, geography, and sociopolitical framework have generated some unique educational structures and problems.

1. Background

Settlement first occurred at least 40,000 years ago through migration from Asia. European settlement commenced in 1788 with the establishment by Britain of a penal colony at Sydney. During the next 60 years, Britain established five more colonies in other parts of the country. Each colony was administered directly and individually from Britain until the six federated in 1901 as the "Commonwealth of Australia" and became states. In addition to the six states, there are two major territories: the Australian Capital Territory (ACT) and the Northern Territory, which is moving towards full statehood.

A major feature of the Australian political-legal structure is its federal nature. The 1901 Constitution, which established the federation, empowered the Commonwealth government to act in certain designated areas, but the states retained powers in a number of important fields, including education. In 1942, the Commonwealth government acquired income-tax powers from the states and as a consequence has increased its involvement in a number of activities, including education, that were formerly their sole preserve.

Australia is sparsely populated: it covers 7.7 million square kilometres (3 million square miles) and has a population of only 15 million. However, because of the extremely arid interior, the population has concentrated along a narrow coastal strip in the more temperate zones and is highly urbanized: over 70 percent of the population live in cities of more than 100,000 persons, and the two largest cities, Sydney and Melbourne, between them account for 40 percent of the total population. The concentration of population in the state

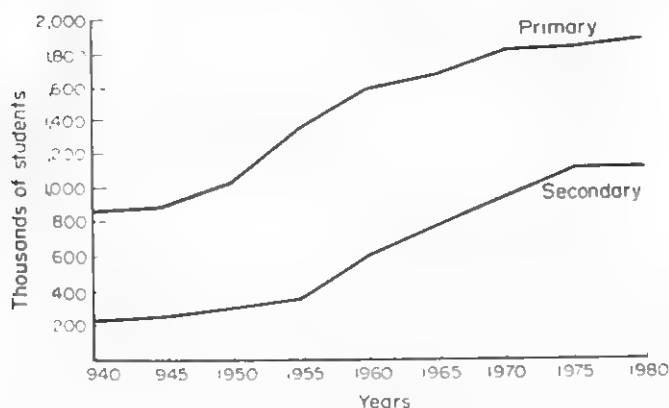


Figure 1
Primary and secondary school enrolments, Australia, 1940-80

capitals is reflected in the centralization of much government administration, including education.

At the time of first European settlement, there were an estimated 250,000 Aborigines in Australia. In the first century of white settlement, these numbers were severely depleted as the white population grew steadily: by 1900, the population was 3.8 million, of which the Aborigines were only a very small number. Following the Second World War, the population grew rapidly because of high rates of natural increase and immigration. The high population growth of the 1950s and 1960s coincided with a marked rise in education-participation rates at the postcompulsory level, causing enrolments to increase sharply and education expenditure to expand.

In the 1970s, population growth declined, and this was reflected in school enrolments. Between 1970 and 1975, primary enrolments increased by less than 1 percent per year, which was only half the average growth of the 1960s, and secondary enrolments were virtually static over the late 1970s. School enrolments between 1940 and 1980 are shown in Fig. 1.

Population growth has recovered since the late 1970s due to higher levels of natural increase and immigration. However, a sustained increase in population growth is likely only if immigration levels remain relatively high.

Postwar immigration caused significant changes in the ethnic composition of the population. In 1947, only 10 percent of the population had been born overseas; by 1982, this proportion had more than doubled. Of those who migrated to Australia in 1946, 91 percent were from Europe and of these four-fifths were British. By contrast, in 1983, Europe supplied only 43 percent of the migrants to Australia, and of these, three-fifths came from the United Kingdom. The fastest growing source of immigrants is Asia.

The increasing ethnic heterogeneity of the population is reflected in language usage. While English is the language of virtually all activities, there are areas in which numbers of non-English speakers are concentrated, in particular the large cities and the Northern

Territory which contains a high proportion of Aborigines who retain their native languages.

Australia is a wealthy country; for the financial year 1984-85, per capita gross domestic product (GDP) was about A\$13,000. There was a long period of steady economic growth, low unemployment, and relatively little inflation from the late 1940s to the mid-1970s. However, between 1973-74 and 1982-83, real GDP grew at an average annual rate of just over 2 percent which was about half the average growth of earlier years. This recession saw unemployment rise to 10.2 percent by mid-1983. Although the Australian economy has recovered somewhat in the mid-1980s, unemployment is likely to remain a major problem for a considerable period.

Economic development has been accompanied by a broadening of the industrial and occupational base. Prior to 1940, the economy was heavily dependent upon primary industries. During the Second World War, Australia's isolated geographical position limited primary exports and increased reliance on local manufacturing. This impetus was continued in the 1950s and 1960s by policies to diversify industry. The proportion of the workforce engaged in manufacturing and construction rose from 30 to 40 percent between 1933 and 1966 while over the same period the proportion engaged in primary industries more than halved to 10 percent. From the mid-1960s onwards the relative importance of manufacturing decreased and by 1985 the proportion of the workforce engaged in manufacturing and construction had fallen to 4 percent. The long-term decline in the rural workforce has continued, and by 1985 primary industries employed only 8 percent of the workforce.

The most significant expansion of the economy has occurred in the tertiary sector, which between 1947 and 1985 increased its share of the workforce from 45 to 66 percent through marked growth in commerce, finance, government, and community services. Since the late 1940s, the growth in real income and the associated shifts in occupational structure have been important factors in the increased demand for education. Greater wealth enhanced the capacity to support education, and the expansion of the economy increased demands for a well-educated workforce.

2. Goals of the Educational System

The broad purposes of the various education sectors and institutions are generally outlined in the legislation establishing state education departments, universities, and other tertiary institutions and authorities. These broad purposes are usually supplemented by detailed statements of aims prepared by relevant authorities. These statements indicate a changing balance between the accommodation of individual and community needs as one moves through the educational system. At the school level, the emphasis is upon the development to the fullest possible extent of the potential of individual

students. At the tertiary level, there is a greater emphasis upon meeting the educational needs of the economy and the society as a whole. To achieve this general aim, the various sectors of tertiary education are seen to have different emphases. For example, the universities are viewed as having a relatively greater responsibility for advancing knowledge, while the technical and further education (TAFE) sector has a more directly vocational charter.

In general, governments in Australia do not have a direct impact on education goals other than through the broad purposes that may be embodied in legislation. However, as governments supply almost all education funding, they exercise considerable influence on the shape and direction of education.

3. General Structure of Education

A broad outline of the formal education structure is provided in Fig. 2 and the principal elements are described below.

The preprimary sector exhibits more diversity in administration, funding, and coverage than the other education sectors because local voluntary bodies played the major role in establishing preprimary education, and governments have varied considerably in their involvement with the sector. The form and extent of preprimary provision vary between systems, and to some extent within systems. In general, the closer children are to the mandatory school-commencement age of 6 years the more likely that they will attend a preprimary programme, that attendance will be on a full-time basis, and that the programme will be operated within a primary school or other agency in receipt of government funding. Most children aged 5 years attend a preprimary programme conducted on a full-time basis in a primary school. Below the age of 5 years, preprimary provision

is less extensive and is predominantly available on a part-time, voluntary basis. The proportion of young children attending preprimary programmes grew significantly over the 1970s as government funding expanded, and this growth is likely to continue.

Primary education is compulsory from the age of 6 years and, depending upon the system, lasts for either 6 or 7 years. In 1984, there were 1.8 million primary pupils enrolled in 7,200 primary and 800 combined primary-secondary schools; 23 percent of primary pupils were enrolled in nongovernment schools. The scattered population in several states has necessitated a large number of small primary schools in rural areas. About one-fifth of primary schools enrol less than 35 pupils, and although the number of small primary schools is declining, they still provide for many country pupils. All government and almost all nongovernment primary schools are coeducational.

Secondary education is available for either five or six years depending upon the length of primary education in the system. As the minimum school-leaving age is 15 years, except for Tasmania where it is 16 years, all students receive at least two to three years of secondary education. Beyond the minimum school-leaving age, participation rates decline markedly. In 1983, 62 percent of all 16-year-olds and 34 percent of 17-year-olds were full-time secondary students. Females now have slightly higher school participation rates than males.

A significant number of adolescents, particularly males, are engaged in part-time education and training through apprenticeships. A normal four-year apprenticeship involves employment and a concurrent course of formal instruction at a TAFE college, generally for at least one day per week. In 1982, 18 percent of 15- to 19-year-olds were employed full time as apprentices. Few females are apprentices because of the limited range of trades having apprenticeship schemes that are traditionally accessible to females.

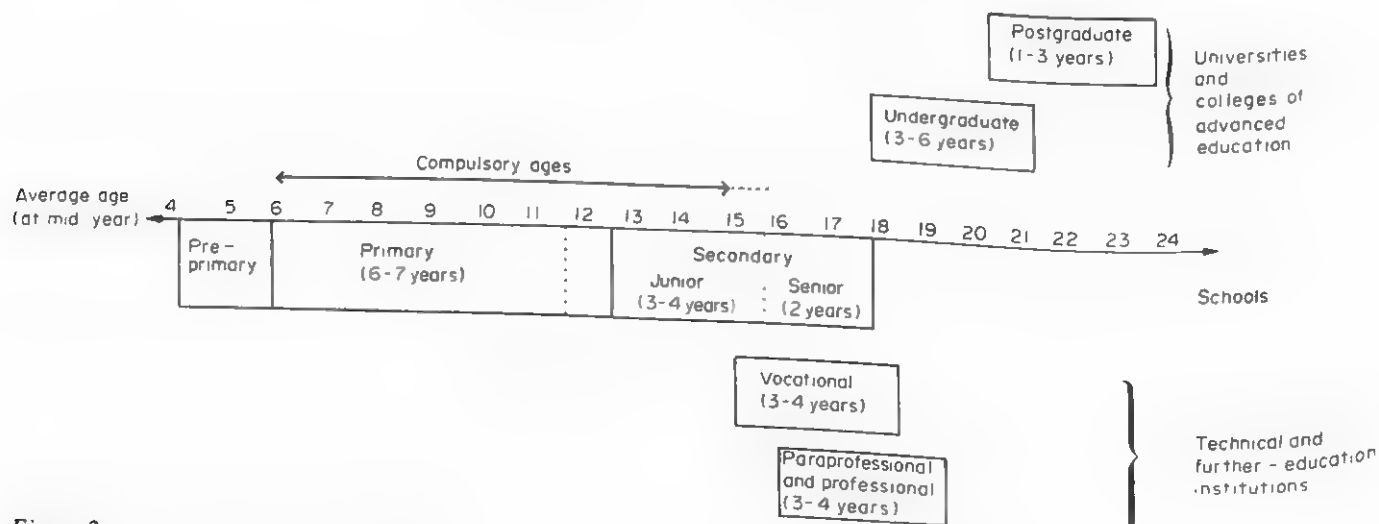


Figure 2
Structure of the educational system

In all government school systems except Tasmania and the ACT, most secondary schools provide for the full span of secondary education. In those two systems, separate secondary colleges cater for years 11 and 12, the final two years of secondary education. Victoria is the only state to retain a separate secondary technical-school system; in all other systems a single comprehensive type of secondary school exists. Almost all government secondary schools are coeducational, and although the number of nongovernment coeducational schools has risen in recent years, most nongovernment secondary schools are single sex.

In 1984, there were 1.3 million secondary students enrolled in 1,500 secondary and 800 combined primary-secondary schools; 28 percent of secondary students were enrolled in nongovernment schools.

The tertiary sector comprises TAFE colleges, colleges of advanced education (CAEs), and universities. Technical and further education (TAFE) colleges are the most accessible of tertiary institutions. In 1984, more than 200 major TAFE institutions and about 900 annexes and other institutions provided TAFE courses, and attracted around one million enrolments. These colleges provide a wide variety of courses including preemployment programmes, retraining, and updating programmes, and liberal adult education. More than 90 percent of TAFE enrolments are part-time, and over 60 percent of TAFE students are aged over 21 years.

The CAE sector comprises a wide variety of institutions, ranging from large colleges providing degree and diploma courses in a broad range of professional and technical fields to relatively small colleges in areas such as agriculture, pharmacy, and art. In 1985, there were 195,000 advanced-education students enrolled in 45 CAEs, the number of institutions having been reduced from a peak of 83 in 1976. The major impetus for the restructuring was a decline of 20,000 in the number of teacher-education students between 1977 and 1982. Part-time study has long been a feature of advanced education and is becoming more important largely because of increased numbers of mature-age students; in 1985, 50 percent of CAE enrolments were part-time.

Australia has 19 universities, the oldest of which was established in 1850 and the most recent in 1977. In 1985, there were 175,000 university enrolments of whom 14 percent were postgraduate students. The universities range greatly in size, but all offer courses at undergraduate and postgraduate levels. As with the CAE sector, there have been significant increases in the proportion of part-time and mature-age university students.

In 1984, 30 percent of those aged between 17 and 21 years were enrolled in postschool study, a significantly higher proportion than in earlier periods. However, most of these enrolments were on a part-time basis and concentrated in the TAFE sector. Between them the university and CAE sectors enrol only 10 percent of the 17 to 21 age group which, although a marked increase over earlier periods, is still relatively low by many international standards. Indeed, since about 1975 there

has been a slight fall in the proportion proceeding direct from secondary school to higher education institutions. In both sectors, overall student numbers have been essentially maintained by increases in mature-age students.

Policies to broaden access to tertiary education have included the abolition of tuition fees, the extension of facilities for part-time and external study, and admission policies designed to encourage those who lack the normal academic prerequisites.

Despite the broadening of access to higher education, the socioeconomic background of students has not changed markedly. Higher education students are still drawn disproportionately from managerial and professional occupational groups. However, females are one group whose participation in higher education has risen noticeably, and females now represent 40 percent of university students and half of CAE students.

The largest and most rapidly expanding sector of tertiary education is TAFE. In 1984, two-thirds of the 17- to 21-year-olds engaged in tertiary study were TAFE students. Most TAFE enrolments are on a part-time basis.

Nonformal education is provided through a variety of agencies and institutions. The universities and CAEs have long provided nonformal activities including lectures and short noncredit courses. However, it is in TAFE that nonformal educational activities are most widespread and TAFE colleges are the major provider of these in most states. In Victoria, a statutory authority, the Council for Adult Education, has a charter to provide nonformal adult education. The Trade Union Training Authority has national responsibility for the continuing education of trade-union members in union matters.

Nonformal educational activities are also conducted by a large number of voluntary groups and individuals, including community neighbourhood learning centres, ethnic groups, and those involved in adult-literacy programs.

4. Administrative and Supervisory Structure

Under the Constitution, education is a state responsibility. In each state a minister of education through an education department administers the government primary and secondary schools, and in some instances the preprimary centres, in the state. The departments recruit and appoint teachers and most other staff, supply buildings, equipment, and materials, and provide some funds for use by government schools at their own discretion. A feature of state administration of schools over the 1970s was the devolution of greater responsibility for administrative, and in some instances curricular, matters to regional education offices and schools.

In the preprimary and TAFE sectors, the role of the education department varies between states. In several states, the education department is the major provider and coordinator of preprimary education, while in

others the department has only a minor responsibility in this area. In the provision of TAFE, the general pattern has been towards the establishment of a separate department for TAFE administration. In several states, coordinating bodies have been established to advise the minister on priorities amongst the various education sectors.

Although education is constitutionally a state responsibility, over the past 20 years the role of the Commonwealth government in education has grown noticeably, in part due to the increased financial dependence of the states on the Commonwealth. Just over 50 percent of funds available to the states for spending on all purposes, including education, are derived from the Commonwealth.

In addition to general-purpose grants to the states, the Commonwealth has, since the early 1970s, also provided funds for specific educational purposes, through the Commonwealth Schools Commission (CSC) and the Commonwealth Tertiary Education Commission (CTEC). These are statutory authorities established to advise the Commonwealth on financial support to the states for education and to assess needs and priorities in their respective areas. Since 1974, universities and CAEs have been wholly funded by the Commonwealth, and substantial Commonwealth funds for primary and secondary education in the states have been administered through the CSC.

The Commonwealth government is directly responsible for the funding and administration of education in the territories. In the ACT, a representative body established in 1977, the ACT Schools Authority, has been allocated responsibility for the administration of preprimary, primary, and secondary education. In the Northern Territory, the direct role of the Commonwealth in education has diminished as the territory has moved towards full statehood.

Political responsibility for the Commonwealth role is exercised by the minister for education who is accountable to the Commonwealth parliament. The Commonwealth minister meets frequently with the state ministers through membership of the Australian Education Council (AEC). The AEC serves as a national forum for debate on educational priorities and policy issues.

Nongovernment schools are an important feature of the educational system and in 1984 enrolled 25 percent of all school students, a proportion which has increased steadily since the early 1970s. Almost all nongovernment schools have close links with church bodies. Of these, Roman Catholic schools are the most numerous and enrol just under 80 percent of nongovernment students. Aside from having to meet prescribed minimum educational standards for registration purposes, nongovernment schools are largely free from government direction.

Universities and CAEs are autonomous institutions established under legislation. Funding for these institutions is wholly a Commonwealth responsibility and is

administered through the CTEC. Each state however has established a coordinating authority to plan and rationalize higher education in consultation with the CTEC.

5. Finance

The predominant role of government in the provision of education is reflected in the sources of education finance. For example, of the total expenditure of A\$7,700 million on education services and facilities in 1980–81, some 94 percent was by government at either Commonwealth or state level.

Although education is constitutionally a state matter, in practice education financing is an amalgam of responsibilities. The states have major responsibility for financing preprimary education, government schools, and TAFE, and provide grants to nongovernment schools and to some nongovernment preprimary centres. The Commonwealth has total financial responsibility for universities and CAEs, and supplies supplementary funds for preprimary education, government and nongovernment schools, and TAFE. Local-government authorities in some states play a limited role in financing preprimary centres. In 1982–83, of the total government outlay on education, state governments supplied 60 percent from their own resources and from nonspecific Commonwealth grants, and the remainder, except for a small outlay by local-government authorities, was from the Commonwealth government. In that year, government outlays on education represented 14.0 percent of all government spending.

Between 1954–55 and 1977–78, the proportion of GDP allocated to education grew steadily from 2.4 to 6.3 percent. The significant expansion in education expenditure over that period has been attributed to several factors including a rise in real incomes, expanded enrolments, increased demand for educated personnel, and qualitative improvements such as reduced student-teacher ratios.

At the end of the 1970s, however, the rate of increase in education expenditure declined and by 1980–81 the share of GDP devoted to education was 6.0 percent, about the level of 1974–75.

In 1982–83, the principal categories of government education expenditure were schools (60 percent), universities (13 percent), other higher education (9 percent), and vocational training (8 percent). Government recurrent expenditure on government schools for 1982–83 on a per student basis (expressed in December 1984 prices) was A\$2,000 for primary and A\$3,100 for secondary schools. Overall these expenditures totalled A\$2,400 per government-school student. Government recurrent expenditure on a weighted student basis for CAEs would be about three times and for universities about four times this figure.

In 1982–83, 6 percent of all education expenditure was from private sources, predominantly for tuition fees at nongovernment schools. Such fees varied markedly

between different types of school. In 1981, 17 percent of expenditure in Catholic schools was financed from private sources; for non-Catholic, nongovernment secondary schools the corresponding figure was 62 percent. The disparity between nongovernment schools in the level of income which they are able to obtain from private sources led the Commonwealth to fund nongovernment schools on a needs basis. Depending upon the level of private funding available to a particular nongovernment school, it is entitled to receive a Commonwealth per capita grant equivalent to between about 20 and 40 percent of the average per student costs of government schools. State-government grants to nongovernment schools tend to be on a per capita basis and are generally pitched at a slightly lower level than the Commonwealth grant.

Government funding of nongovernment schools remains a contentious issue in Australian education. In the face of some opposition Commonwealth and state governments have reaffirmed commitments to financially support the nongovernment sector. However, there are indications that government funds for particularly wealthy nongovernment schools may decline.

Full-time undergraduate tertiary students are eligible for means-tested living allowances. About one-third of eligible students receive assistance under this scheme. In 1985, the maximum annual allowance ranged from A\$2,300 for students living at home to A\$3,600 for those who were financially independent of their parents; additional allowances were payable for dependents. Full-time postgraduate students are eligible for a competitive award which in 1985 was valued at A\$7,600 per annum plus allowances for dependents. Such awards are held by about 30 percent of eligible postgraduate students.

The major form of financial assistance to secondary students is a means-tested allowance enabling a number of full-time students aged less than 19 years to complete secondary education. In 1985 the maximum allowance was about A\$1,200 per year, and 60,000 students from low-income families participated in the scheme.

6. Personnel

In 1983, the equivalent of 88,000 full-time teachers were employed in primary schools and 92,000 in secondary schools, which represented student-teacher ratios of 20.5 and 13.1 respectively. Across the whole school system, the student-teacher ratio in 1983 was 16.7, a marked improvement on the 1970 ratio of 23.2. The number of professional support and ancillary staff also grew significantly over the 1970s.

From 1955 to 1977, teacher employment grew rapidly and teacher shortages were common. However, since about 1977, the demand for additional teachers has declined as the rate of increase in education expenditure slowed, enrolments stabilized, and economic recession reduced the number of teacher resignations. As part of a response to the declining employment opportunities

for teachers, tertiary authorities have decreased intakes to preservice teacher-education courses. Such policies have attracted criticism on the grounds that the projections upon which they are based may have underestimated future demands for additional teachers, particularly if the rate of economic growth increases. At the tertiary level, the only significant area of growth in staff numbers has been TAFE.

Almost all preprimary and primary teachers and most secondary teachers are trained in a CAE; a substantial number of secondary and a few primary teachers receive their preservice training at a university. Some nongovernment teachers are trained in teachers' colleges operated by religious denominations. The normal length of preservice training for preprimary and primary teachers is three years, and for secondary teachers four years. All school systems provide opportunities for inservice education, including the upgrading of initial qualifications by the completion of approved courses.

7. Curriculum Development and Teaching Methodology

A common trend in all government school systems since the early 1970s has been some devolution of curriculum responsibility to schools. However, the pace of this development has varied. In several states, curriculum guidelines are developed centrally which schools are able to adapt to meet local circumstances. In the other states, central authorities develop general aims and schools are able to develop detailed curricula within these broad guidelines. The major exceptions to this in most systems are at the senior-secondary level where detailed curricula are generally prepared centrally for external examination purposes. In the two major territories, schools have relatively greater autonomy and are able to develop curricula on the basis of general aims determined at the school level.

Centrally, the preparation of curriculum guides and general curriculum objectives is normally the responsibility of a curriculum section within the education department. The curriculum guides are generally prepared in conjunction with standing committees for particular subject areas.

Despite the considerable autonomy of nongovernment schools in curriculum matters, in most cases they would follow a similar curriculum to that of government schools in the same state or territory.

The Curriculum Development Centre (CDC) was established by the Commonwealth government in 1975 to assist with the coordination of curriculum development and dissemination, and with the preparation of curriculum materials. However, the centre's budget was significantly reduced in 1981, a number of its activities were terminated, and its operations have been incorporated into the Commonwealth Department of Education and Youth Affairs.

Despite the structural similarities of the state school systems, some curricular differences exist between

states, and between schools in those states where some curriculum responsibilities have been devolved to schools. Such differences are most apparent at the junior- and middle-secondary-school levels as these have generally been the levels where curriculum development in schools has been concentrated.

Learning materials and tests are prepared by a variety of agents including the curriculum sections of education departments, the Australian Council for Educational Research (ACER), the CDC, academics, commercial publishers, and teachers' subject associations. In general, schools and individual teachers have a great deal of autonomy in the selection of learning materials. This autonomy is fostered by the common practice of allocating to schools finance with which to purchase learning materials.

As the systems vary in the extent to which responsibility for curriculum development has been devolved to schools, there is also variation in the mechanisms of curriculum implementation. In those systems which employ centrally produced curriculum guides and materials, senior officers regularly visit schools to oversee curriculum implementation, amongst other duties. In the states where schools develop curricula according to centrally determined general aims, the role of such personnel tends to be more advisory in nature, and the major responsibility for curriculum implementation lies with the school principal. In systems such as that of the ACT, where schools are able to develop both general aims and detailed curricula, mechanisms have developed for maintaining school accountability and compatibility between school programmes.

Responsibility for teaching methodology lies principally with individual teachers and schools. While the predominant form of teaching at the primary school remains that of a single teacher teaching a single class for the majority of the week, there is evidence of an increasing diversity of class grouping arrangements. Similarly, while at the secondary school most students remain in horizontal age groupings and are taught by subject-specialist teachers, a variety of grouping practices is becoming evident including vertical age structures, team teaching, and small-group formation.

Current curriculum problems include the coordination of curriculum development and the determination of appropriate content. Concern with the coordination of curriculum development has resulted from the devolution of curriculum responsibility to schools that to some extent occurred in all systems over the 1970s. This concern is associated with increasing pressures for clearer lines of accountability between the education sector and the wider community. Concern with curriculum content is attributable to changes in Australian society and the student population. Obtaining agreement on appropriate curriculum content is more difficult than ever before due to the increasingly pluralistic and multicultural nature of Australian society, and uncertainty about the future shape of that society. This difficulty is intensified at the senior-sec-

ondary level where an academic curriculum designed to prepare students for tertiary study is seen by some as increasingly unsuitable for the needs of many students.

Over the 1970s, all education departments were involved with a re-examination of objectives, structure, and curricula. Attempts have been made to define and develop core areas of the curriculum. In addition, at the senior-secondary level many schools have developed programmes which offer alternatives to the traditional academic subjects, including areas with a stronger emphasis on vocational and technological expertise. Much work, however, remains to be done.

8. Examinations, Promotions, and Certification

For many years, the government school systems made extensive use of external assessment and certification to guide student placement. Over the postwar period most of these external examinations have been abolished, and in both primary and secondary schools the most common practice is promotion by age. In most systems, the schools have responsibility for examinations at all year levels except the final secondary year, where an external examinations body operates. The first formal qualification received by students in most systems is a certificate at the end of year 10 based upon internal school assessment. In all systems, a higher school certificate is awarded at year 12, generally on the basis of an external examination. In the ACT and Queensland, accredited internal school assessment has replaced the external examination of year 12.

Entrance to universities and CAEs is normally gained through an acceptable level of performance at year 12, although most institutions have some provision for entry by adults who lack this formal qualification. Entry to many TAFE courses is possible after satisfactory completion of year 10.

Problems in the examination and promotion system include those of obtaining comparability between internal school assessments and the teaching and learning difficulties which may arise through automatic age promotion. Greater attention to moderating school assessments is an important response in some systems to the first difficulty. The problems which may arise from automatic age promotion are being tackled by a variety of means including vertical age grouping, ability grouping, and greater use of small-group instruction for students experiencing difficulties.

9. Educational Research

Educational research expanded considerably between 1960 and 1980 due to several factors. First, the number of tertiary institutions and their staffs increased significantly over this period, particularly in the field of teacher education. In 1960, for example, there were only 70 full-time academic staff in university education

faculties. By 1980, this number had increased 10-fold, and the number of students undertaking higher degrees in education had shown a similar increase. Second, a professional association of researchers, the Australian Association for Research in Education (AARE) was formed in 1970 and has stimulated research activity. Third, until the late 1970s at least, government financial support for research continued to increase.

The early 1980s have however, seen a diminution of much educational research activity as teacher-training institutions have either been closed or reduced in size and government financial support reduced, particularly at the Commonwealth level. A severe blow was the disbandment in 1981 by the Commonwealth government of the Education Research and Development Committee (ERDC) which assisted in the coordination of research, the distribution of research funds, and research training. It remains to be seen whether the impetus to research provided in the 1970s can be maintained without a solid framework of government financial support.

As most educational research is undertaken by the staff and postgraduate students of higher education institutions, much research activity follows the interests of individual researchers and accordingly is difficult to characterize. The ERDC attempted to coordinate research by the identification of priority areas in which research would be supported. Research projects supported by the ERDC included studies of teacher induction, multiculturalism, the education of physically disadvantaged students, school-based assessment, open-area classrooms and schools, and transition education.

The activities of the ACER give another indication of the major areas of educational research in Australia. During the 1970s, the ACER broadened its traditional role in educational measurement and curriculum development through studies in areas such as resource allocation to government schools, the postschool experiences of school leavers, and the interaction between education and the wider society.

The tighter funding climate of the early 1980s has meant that in contrast to the 1970s there are fewer opportunities for researcher-initiated projects to receive financial support. One of the few growth areas to emerge is in commissioned evaluation studies of government programme and policy initiatives.

10. Major Problems

The period since 1960 has seen an amelioration in many of the features of Australian education which had previously attracted critical comment. The state education systems are far less centralized and rigid; teachers are better qualified; resource levels have improved markedly; participation in postcompulsory education has risen significantly; and there is now more opportunity for genuine involvement by the community in edu-

cational decision making. However, a number of significant problem areas still exist and are likely to remain for some time.

First, participation rates for adolescents are still relatively low and there is concern that the type of programme offered at the senior-secondary level is not meeting the needs of many young people. This concern has been heightened by high youth-unemployment rates. Responses to this problem have included greater support for senior-secondary-school programmes which offer alternatives to preparation for tertiary study, and increased funding for apprenticeships and other TAFE programmes.

Second, declining enrolments in several sectors have threatened the viability of some institutions and prompted authorities to undertake rationalization programmes. As yet these have been largely confined to those CAEs engaged in teacher education, but some other education institutions are likely also to experience closures and amalgamations over the next few years. At the same time there is likely to be little movement either in or out of teaching, thereby creating some risk of ossification of teacher attitudes and practices.

Third, the rapid growth of the education sector since the 1950s has created problems of effective planning and coordination. In several states, this has led to the development of coordinating authorities and a restructuring of state education-department management along functional lines.

Fourth, there are problems of curriculum development and renewal. There is a need for a curriculum which can help to develop adaptive young people able to lead satisfying and effective lives in an uncertain future. This need is paralleled by the need to develop structures and policies which extend recurrent-education opportunities.

In sum, the problems likely to be faced by Australian education in the future are essentially of two types. First, there are the difficulties of managing some contraction in a system in which expansion has been the normal state. Second, there are the problems of fostering sufficient flexibility in the education sector for it to be able to respond quickly and adequately to changing circumstances. The challenge for Australian education is to overcome the first problem in a manner which will not limit the prospects of overcoming the second.

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Austria

W. Clement

In the course of the twentieth century, several historical landmarks completely altered the character of Austria. As a consequence of the First World War, the world power of the Austro-Hungarian monarchy, 676,346 square kilometers (261,137 square miles) in extent and with 52.8 million inhabitants, was reduced to the size of a minor country, the Republic of Austria, of only 84,000 square kilometers (32,432 square miles). The First Republic lost its national independence between 1938 and 1945. The ravages of the Second World War again destroyed a major part of the patrimony of the state. After 1945, the Allied Forces occupied Austria and divided it into four zones. Ten years later, in 1955, the State Treaty, in which the neutrality in perpetuity of Austria was stipulated, brought the Second Republic into being. At that time, the political structure of today's Austria was constitutionally laid down. The areas of responsibility at the federal, state, and community levels were defined. Since 1945, too, the political will of the country has been determined mainly by two parties, namely the Austrian People's Party (ÖVP) and the Austrian Social Democratic Party (SPÖ). For a long time, these parties formed a coalition government, but since 1966 there has been a one-party government, by the ÖVP from 1966 and by the SPÖ from 1970 to 1983.

The economic system may aptly be called a mixed economy. It is probably due to this system that Austria effected an economic recovery after the Second World

War which is known internationally as the "Austrian economic miracle." In this system, there prevails a relatively high proportion of nationalization, both direct and indirect (through nationalized banks) alongside the market mechanism. Yet, on the whole, the nationalized production area behaves like the private sector and has to obey the laws governing joint-stock companies. The Austrian system of social partnership, which is sometimes labeled a club or lobby democracy, became another famous *Austriacum*. Its main purpose is to keep wage and price policies moderate. Besides, virtually any political question of importance is dealt with in what is called the "preparliamentarian area" of the clubs and unions.

The economic and social structure of the country is presented in Table 1. If the per capita gross national product (GNP) is taken as the main single indicator, Austria occupies a prominent place in an international comparison. Its per capita GNP amounted to US\$10,255 in 1980, which places it in 13th position among countries in the Organisation for Economic Co-operation and Development (OECD); in 1984 it amounted to US\$8,573 as a consequence of altered dollar exchange rates. This good performance is further underlined if one examines other factors such as the rate of inflation, the unemployment rate, the economic-growth rate, and the distribution of income. It should not be overlooked, however, that the worldwide economic crisis at the beginning of

Table 1
Indicators of social and economic structure 1951-81^a

	1951	%	1961	%	1971	%	1981	%
Population (1,000s)	6,935,000		7,048,000		7,426,000		7,563,401	
Live births (1,000s)	107,540		125,940		112,300		93,942	
Per 1,000	15.6		17.9		15.1		12.4	
Population by age groups (1,000s)								
0-4 years	530,092	7.64	583,784	8.28	590,668	7.95	435,757	5.80
5-9 years	513,694	7.40	487,526	6.91	643,894	8.67	480,056	6.39
10-14 years	543,813	7.84	513,382	7.28	587,426	7.91	589,458	7.85
15-65 years	4,612,854	66.51	4,616,005	65.49	4,572,501	61.57	4,912,919	65.44
Total labor force (1,000s)	3,347,115		3,306,633		3,097,987		3,411,521	
Of which:								
Females	1,299,252	38.81	1,329,607	40.21	1,199,655	38.72	1,376,751	40.35
Agriculture and forestry	1,079,647	32.25	759,847	22.91	426,478	13.76	290,490	8.51
Industry	1,367,432	40.85	1,358,864	41.09	1,297,034	41.86	1,398,548	40.99
Services	900,036	26.88	1,170,220	35.39	1,374,478	44.36	1,722,483	50.49
Unemployment rate		6.0		3.8		2.4		2.4
GNP (billion AS—constant 1976 prices)	220.23		388.52		600.69		818.85	
GNP (billion AS—current prices)	66.40		180.40		419.62		1056.25	

a Sources. Statistisches Zentralamt 1984b

the 1980s endangered even Austria's privileged position.

1. Organization and Goals of the Educational System

Implementing radical goals in certain types of educational policy would not be an Austrian way of proceeding. Even politically, different governments have always tried to strike a balance between the fundamental educational goals of equality of educational opportunity and the goals of efficiency through the selection of able personnel. A precondition for attaining these targets is compulsory general schooling between the ages of 6 and 15 years. Educational strategies seek to balance vocational and humanistic education. Although the relevant ministries refrain from publishing quantitative figures for these targets, it is easy to find multiple proof of the general commitment to this balance in nearly all introductory paragraphs of school and university legislation (Bundesministerium für Unterricht und Kunst 1979). There is still another barrier against extreme tendencies fixed by the constitution: educational laws can only be enacted in parliament with a two-thirds majority. In practice, this prevents any political party from imposing its will.

It is understandable, therefore, that the organization of the educational system, including the universities, in

Austria is characterized by harmoniousness and diversity. The main distinguishing marks of the Austrian system are the following:

- medium-level and top-level secondary schools are very differentiated in terms of ability and curriculum;
- general-secondary and vocational/technical secondary schools have the same sort of intake;
- the system of initial vocational training, the so-called dual system, which consists of on-the-job training and job-related education and training in centers for apprentices is highly developed;
- vocational training at the middle and higher secondary level is developed to such a degree that postsecondary polytechnics, very common in other countries, are more or less unnecessary (except for teacher training);
- institutes of tertiary scientific education are organized in a joint system, involving not only traditional universities but also technical, economic, and other special "universities" as well as colleges of fine arts; and
- in adult education, the public sector plays a secondary role; most adult education is organized by unions and firms.

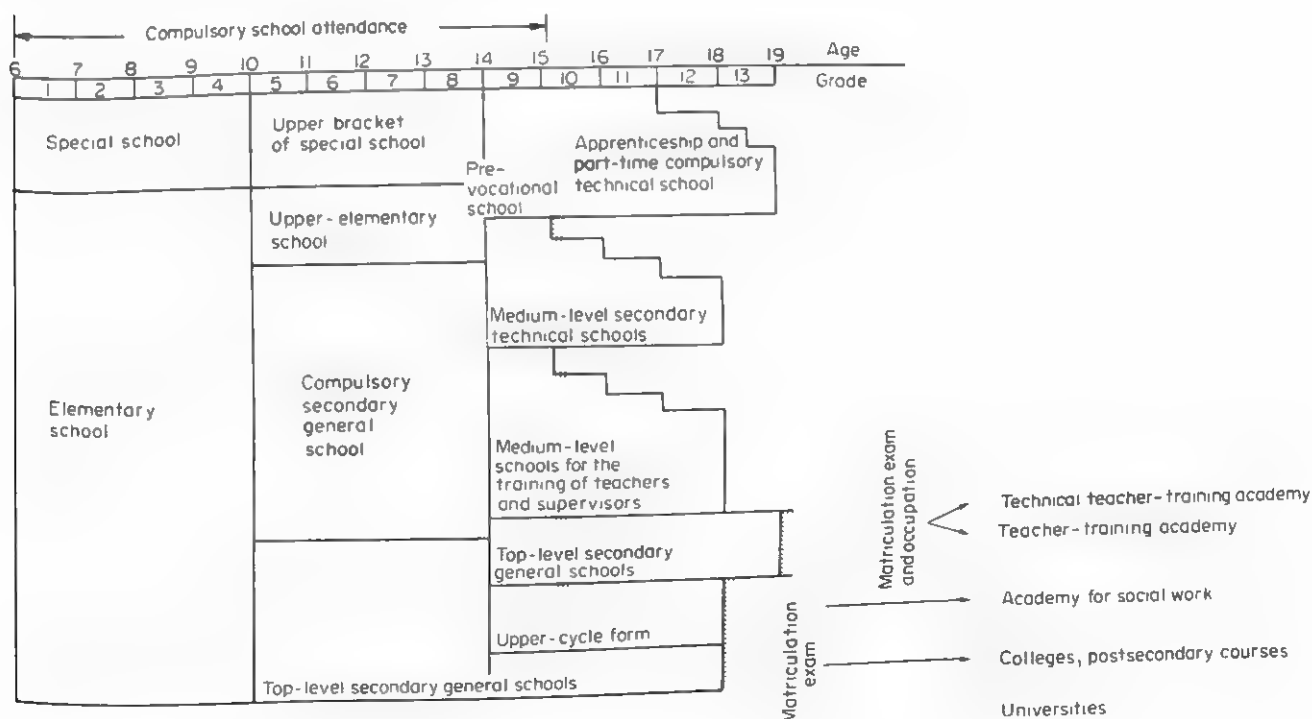


Figure 1
Organization of the educational system^a

^a Source: Bundesministerium für Unterricht und Kunst 1984

The legal basis of this educational system lies in the Schools Acts 1962. Its structure is shown in Fig. 1.

Preschool education is not compulsory. Despite a close net of nursery schools and kindergartens, the choice between sending children to these institutions and keeping them in the family is left to the parents.

Compulsory schooling covers grades 1 to 9 (or 10). After four years of elementary school, a compulsory secondary general school (*Hauptschule*) or the lower bracket of the top-level secondary general school is attended. Special schools provide instruction for the handicapped. A terminal class, called *Polytechnischer Lehrgang* (prevocational school) has been introduced as a ninth grade in order to bridge compulsory general schooling and practical life and vocational orientation.

The top-level secondary general schools (grades 9 to 13) cover a range of different forms, including a classical branch, a modern-languages branch, a mixed branch, and a sciences branch. The main aim of this type of school, however, is to lead to the matriculation examination (*Matura, Reifeprüfung*) which is a precondition for enrollment in universities.

The compulsory technical schools are organized according to the dual system. Apprenticeship starts at the age of 15 and may last for from two to four years. For as many as 216 occupations, apprentices must, apart from training on the job, follow courses in either industrial, commercial, domestic science, agricultural, or forestry subjects in part-time compulsory technical schools. In contrast to countries which do not operate within the Germanic tradition, this apprenticeship system covers a very large section of the youth population, conveying, as it does, a mark of professional competence and a well-established professional status. Secondary technical schools (grades 9 to 12) provide technical education at intermediate levels. The main areas covered are industry, trade and commerce, art, domestic science, social occupations, and agriculture. This same division of areas applies also to grades 9 to 13 in top-level secondary technical schools. These schools provide an excellent vocational education and may lead to the title Engineer (after three subsequent years of vocational experience) and enable youngsters also to pass the matriculation examination.

The postsecondary nonuniversity area has only recently gained in importance. The main purpose of the technical academies and colleges is to convey practical vocational skills to graduates coming from the top-level general secondary schools who do not enter universities. The teacher-training academies, an important aspect of postsecondary education, will be mentioned later.

Universities form the main area of tertiary education. With the exception of colleges of fine arts, the organization of all universities has a common legal basis in the General University Studies Act 1966 and the University Organization Act 1975. There are no elitist universities requiring special entry conditions. Screening processes take place throughout a student's course of studies, especially in the first semesters. This phil-

osophy of selection is obviously reflected in the dropout rates. Generally, the studies are divided into three parts. The first and the second parts aim at providing the necessary skills and aptitudes for an occupation and lead to a diploma (*Magister*). The third part is geared towards further scientific study and leads to the doctorate.

Adult education is provided mainly in a nonformal setting. As in most countries, general adult education comprises general public evening schools (*Volks-hochschulen*), distance teaching, and teaching provided by churches. However, the most important feature of Austrian adult education is the network of quasiformal institutions for adult vocational education all over the country. These are financed and administered by institutions belonging to the Federal Chamber of Commerce and the Chambers of Labor.

A problem which is acute in every educational system, namely its permeability, should be briefly mentioned here. Flexible educational paths require multiple educational choices and a large number of bridges and entry points in order to switch from one type of school to another. There is no doubt about the manifold possibilities in Austria. But the low frequency of transfer from one form of education to another proves quite clearly that the system is more flexible than the individuals—in their choices and movements—who use it (see Fig. 2).

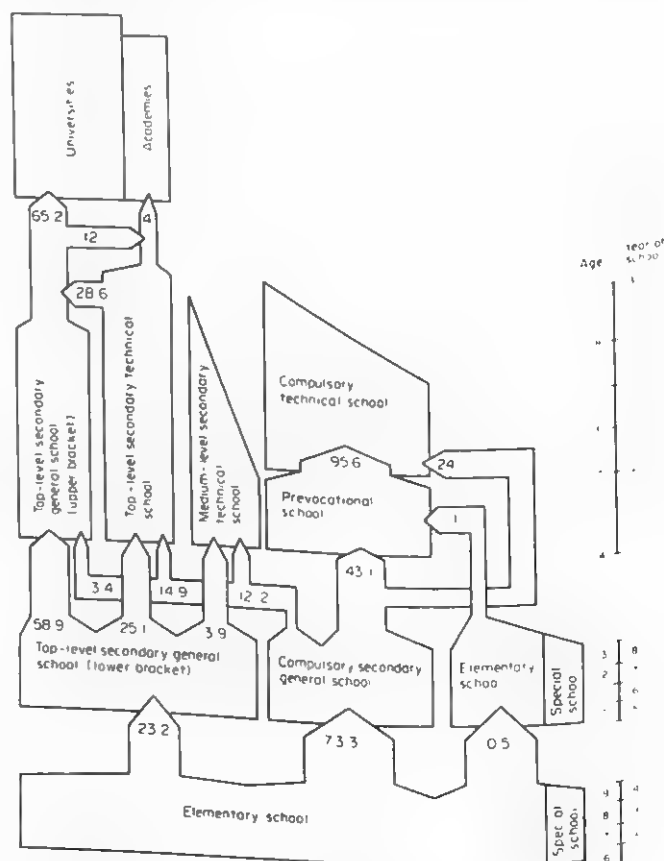


Figure 2
Main male transition rates 1979/80 (%)

Table 2
Proportions of the main educational institutions 1960, 1970, 1980 and 1984^a

Year	Universities ^b	% of females	Top-level secondary general and technical schools	% of females	Medium-level secondary technical schools	% of females	Compulsory technical schools	% of females	Compulsory general schools	% of females	Total
1960	40,815 (3.86%)	23.63	83,419 (7.89%)	n.a.	33,500 (3.17%)	n.a.	154,765 (14.64%)	35.61	744,211 (70.43%)	49.41	1,056,710
1970	57,297 (4.13%)	25.73	168,305 (12.14%)	43.22	50,652 (3.65%)	57.90	146,559 (10.60%)	32.74	963,579 (69.50%)	48.90	1,509,105
1980	123,463 ^c (8.53%)	38.94	258,499 (17.87%)	47.40	79,937 (5.52%)	63.80	198,509 (13.70%)	32.96	831,017 (57.40%)	48.15	1,491,425
1984	142,159 (10.36%)	41.81	266,007 (19.39%)	48.63	80,938 (5.90%)	61.24	181,623 (13.24%)	32.54	701,071 (51.10%)	47.83	1,371,798

^a Source Österreichische Statistisches Zentralamt 1961, 1971, 1981a, 1981b, 1985a, 1985b ^b 1979 ^c Total enrollment

Table 3
Participation rates by age 1961–85 (%)

Year	Enrollment of Austrians in scientific universities and colleges of fine arts		Graduates with matriculation examination		Top-level secondary general schools (upper bracket) and top-level secondary technical schools	
	(18–26 years)		(18 years)		(14–19 years)	
	Total	of which: female	Total	of which: female	Total	of which: female
1961	3.9 (8.7 ^a)	2.1 (4.3)	11.1	n.a.	10.2	n.a.
1971	5.4 (11.9)	2.8 (6.6)	14.4	11.5	17.7	16.0
1979	10.5 (20.2)	8.5 (15.7)	21.4	21.5	22.1	21.9
1985	13.6	12.0	24.5	25.2	28.9	28.6

^a The figures in brackets are the respective UNESCO statistics which pertain to all (national and foreign) enrollment at tertiary level in the 20–24 age-group

Demographic influences together with an increased demand for education significantly altered the quantitative composition of the educational pyramid in the period 1960 to 1984 (see Table 2). In the period under review total enrollment increased by 29.81 percent. The growth of the share of students in comparison to the total enrollment (from 3.86 percent in 1960 to 10.36 percent in 1984) was particularly significant. The demographic factor did not affect this level. Rather, it was the increased enrollment of females in university courses which caused the change. The female proportion grew from 23.36 percent (1960) to 41.31 percent (1984). The general secondary and vocational secondary schools show a similar trend.

Another effect of the increased demand for education and larger age cohorts is the improved educational participation rate by age. Some crucial rates are presented in Table 3. From a bird's-eye view, the development from 1961 to 1985 may be summarized as follows: the increase in enrollment of pupils in compulsory schooling in relation to total age-group numbers (amounting to roughly 70 percent in the 1960s) is determined by the number of births. The number of live births in 1953 amounted only to 103,000, but only 10 years later a peak was reached with 135,000. For a short while, live births remained at this level. Yet, a different fertility pattern caused this number to drop to 93,942 live births in 1981. This pattern is reflected in enrollment in compulsory schooling, where the highest level was reached in 1974, with more than 950,000 pupils attending grades 1 to 8 in the general sections of compulsory schools. Apart from demographic factors, the educational expansion, in its true sense, was felt more acutely in medium- and top-level secondary schools. It is, however, difficult to assess the motives for staying

longer at school. Individual and social demand for education, a higher per capita income, a larger proportion of girls, labor-market requirements for better qualified personnel, and, finally, simply the effect of an enlarged capacity in terms of schools and teachers may be counted as the main reasons.

2. Public Institutions of Policy and Finance

Legal competency, administration, and finance of the different education categories is regulated by the constitution (Clement and Sauerschnig 1978 p. 37n). To simplify, it can be said that the states (Länder) and communities are responsible for general and vocational compulsory schools; all other schools are the responsibility of the federal government. Legal responsibility and financing, however, differ. Through a set of laws regulating organization, administration, inspection, curriculum construction, etc., as well as through finance, the federal authority has a far-reaching influence. On the other hand, many vocational middle and higher level schools are set up by the provinces and communities which also bear a large financial burden. Only 10 percent of pupils attend private schools. These schools are subsidized by public funds.

The educational expansion described above in terms of enrollment is of course reflected in educational finance. The exact amount of the financial burden is not very easy to calculate. The reason is that the usual official statistics relate to official authorities classified in an institutional way. The existence of a host of transfer payments makes it virtually impossible to determine in every detail the exact expenditures for a specific type of school because the relevant budgetary items have to be pulled out of different budgets.

erally accepted, they will be introduced on a national level and become legal. Examples of the introduction of pilot projects as durable institutionalized measures are: the comprehensive training of teachers for the compulsory schools in the teacher-training academies (1965), the introduction of political education in secondary education (1977), the program of "free textbooks" (1977-78), and a new syllabus for the basic schools.

The reform which was most heatedly debated at the beginning of the 1980s was that of schools for pupils in the age range 10 to 14 years. The proposal of a seventh amendment to the School Organization Act would practically abolish the differences between the compulsory general secondary school and the lower cycle of the top-level general secondary school. The advantage of this change was seen to be the postponement of the decision concerning the later educational path to be followed by pupils. Thus, it should help to improve the social equality of educational opportunity. This proposal was, however, criticized for being a further step towards the homogenization of achievement and because it would mean abandoning the well-proved system of differentiated secondary schools.

The implementation of this educational reform would have led to a fundamental alteration in the existing organization of schools: preschool education would have had to be offered on a larger scale; elementary and special schools would have formed a new general primary bracket; a comprehensive medium bracket would have covered the compulsory secondary general school, grades 5 to 8 of the upper-elementary schools, and the lower cycle of top-level general schools; an upper bracket would have encompassed the pre-vocational schools, the compulsory vocational schools, the medium- and top-level secondary technical schools, and the upper cycle of top-level secondary general schools. Finally, there would have been a postsecondary (nonuniversity) academic bracket for teacher-training

institutions and other academic colleges. It goes without saying that such a far-reaching reform would also have presupposed a fundamental change in entrance requirements and curricula. The bill did not succeed in passing parliament, however.

4. Future Trends

The educational tasks in the decades ahead are again determined to a large extent by quantitative trends. In the foreseeable future, the proportions of students at the several types of institution will shift as a result of demographic trends. Table 6 presents the percentages of young people in the different types of institution in 1980 and the percentages forecast for 1990 and 1995.

The zenith of quantitative expansion was reached around 1980. From then on, a fall in the number of pupils can on the whole be extrapolated. This global observation, however, is not very useful because the aggregate trend is the result of diverging individual trends.

The number of pupils in compulsory schools will drop by more than a third in a 20-year timespan, which reduces the percentage share from 69 percent (1971) to 60 percent (1990). The medium-level schools will show a constant downward trend from 1980 to the level of 1970. The only long-term increase to be foreseen is for university students. Their number will increase probably by more than 150 percent between 1971 and 1990. These trends may serve as a basis for the following general strategies for educational policy.

Even if the number of pupils per class was further reduced and even if the last tiny regional teacher shortages were made up, it is hardly imaginable how a general oversupply of teachers in compulsory schooling is to be avoided. A logical consequence, which is not very popular in political circles, would be to reallocate the teacher oversupply to other areas of education where

Table 6
Student numbers as forecast for 1990^a and 1995^b

Level	1990		1995	
	Total	Share in %	Total	Share in %
Universities	162,869	15.00	161,221	14.72
Top-level general secondary schools (upper bracket)	61,945	5.70	59,261	5.41
Top-level general secondary schools (lower bracket)	81,321	7.48	89,560	8.18
Top-level technical secondary schools	75,598	6.96	74,140	6.77
Medium-level technical secondary schools	43,588	4.01	41,714	3.81
Compulsory general schools	661,335	60.86	669,219	61.11
Total	1,086,656 ^c	100.00	1,095,115	100.00

a Source: Landler 1985 b Dell'Mour 1983 c To this number some 143,000 youngsters in compulsory technical schools (apprenticeship system) have to be added

there is still a demand for it. Special schools and adult education would be obvious such areas.

At the middle and higher secondary levels, there is still a de facto separation of vocational from general education. Thus, the top-level general secondary education is a one-way track to the universities. Seen from a labor-market perspective, a graduate from the upper-level general secondary school will, without a doubt, run the greatest risk of becoming unemployed. Proposals aimed at easing the horizontal and vertical separation between the general secondary and vocational schools should therefore be given high priority. This would open up occupational alternatives for graduates of general secondary schools.

The crucial problem ahead, however, will arise at the universities. In many study areas, the inflow of new entrants is proving difficult to cope with. A quantitative entrance restriction (*numerus clausus*) is not part of university policy in Austria. Even taking due account of the fact that many students are enrolled in universities because of social advantages (study grants, free public transport, social security, reductions in public institutions, etc.), the increase in student numbers is so large, that it cannot be paralleled by an increase in the numbers of faculty. The deterioration of the teacher-student ratio is therefore cogent. In some fields and in some universities, an additional burden can certainly be tolerated. Yet, there may be a considerable risk of deteriorating university standards and a reduction in university research. Since the probability of increasing public funds for universities is very limited and there will be funding only for very few additional faculty posts, conventional policy measures should be reconsidered. For example, distance teaching should be examined. Apart from reaching additional strata of the population, this could also absorb some of the potential new entrants to the universities. Another possibility would be to open up the universities to the outside world—in particular, to public administration and companies. This would not only facilitate the transfer of personnel in both directions but would also allow more persons to be involved in teaching at universities.

Any forecast of the problems in the coming decades would have to conclude that labor-market problems and the tightening of public funds will certainly depress enthusiasm for future educational reforms. The main activity of future educational policy will therefore be restricted to internal reforms of the existing formal educational system. In the present political climate, the target of "comprehensiveness" still looms large. At the university level, the changes of the 1970s, such as democratization and reform of university legalization, have been achieved. The problem of how to cope with the large increase of students in the coming decades is still open to debate. The vocational training system which performed well in the past was improved in the 1970s but without changes in principle. There is little doubt that its efficiency will withstand any future challenges.

Given this situation, new initiatives for educational reform can only be expected if they are required as a result of large-scale, new technological developments. Such would be the case, for example, if microelectronics were to restructure society and the economy and thus make new educational demands of graduates. Educational technology could also be improved. Finally, the present organization of the educational system could lead towards a more general and more flexible system if the existing ideological prejudices and financial limitations could be reduced and if a system of recurrent education could be established.

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Bahamas

M. McLean

Four features of the Bahamas, when taken together, distinguish the country from other Caribbean islands and also have important influences on its educational system. First, the population is less than a quarter of a million, which creates formidable difficulties in the way of constructing a complete and self-sufficient educational system. Second, unlike less heavily populated West Indian islands, the Bahamas has a land area bigger than countries such as Jamaica and Trinidad and Tobago. It consists of many widely dispersed islands. There are constraints on the provision of education for such a scattered population.

Third, the Bahamas is one of the wealthier states of the West Indies. Its per capita gross national product (GNP) in 1980, at US\$2,790, was almost double those of Jamaica and Cuba and was exceeded only by Trinidad and Tobago and Venezuela among the larger states of the Caribbean area. These economic advantages have permitted the achievement of universal basic education. But wealth has been created through tourism and foreign investment, and education is seen as having an important role in fostering a more balanced economic development.

Finally, the Bahamas has been a United Kingdom colony for most of its history since European penetration of the Western hemisphere. The educational system still depends on United Kingdom resources for teachers, textbooks, and examinations, and the values underlying Bahamian education remain predominantly British. This has been seen as a constraint on the Bahamianization of education and public life and on the reform of education in line with declared social and economic objectives.

1. Background

The Bahamas form an archipelago of 700 islands and more than 2,000 cays and rocks stretching over an area

of 750 kilometres. Although 30 islands are inhabited, most of the population is concentrated on 14 islands. New Providence Island, where the capital and major town Nassau is situated, contains 60 percent of the population.

The total population recorded in the 1980 census was 237,090. The average annual rate of growth between 1970 and 1980 was 3.4 percent, though this was accounted for partly by immigration. In 1979, the birth rate exceeded the death rate by 16.5 per 1,000, which indicated a continuing decline in fertility rates. The population density is low for the Caribbean area at 18 per square kilometre in 1981. This sparse distribution is marked on all inhabited islands except New Providence.

The ethnic composition of the population has been estimated at 80 percent Negroid, 10 percent Caucasian, and 10 percent mixed. The major religious affiliations in 1970 were Baptist (29 percent), Anglican (23 percent), Roman Catholic (22 percent), and Methodist (7 percent). The official language (and that overwhelmingly of daily usage) is English. There are few major cultural divisions among the population.

Social stratification is related almost exclusively to income, though there are residues of a former correlation between race and social status. However, there are considerable income differentials. The labour force is concentrated in the service industries. In 1979, the unemployment rate was estimated at 19 percent. The failure of the economy to absorb a substantial proportion of the potential active population is seen to have important educational implications.

Other social characteristics which are thought to have significance for education are the prevalence of one-parent families (and teenage pregnancy), the widespread use of creole versions of English, and social problems associated with the rapid growth of urban centres and tourism. However, crime has not been a serious problem.

The economy is based largely on tourism. It accounts for about 70 percent of GNP, government revenue, and employment, as well as half the country's foreign-exchange earnings. Agriculture has declined and employs less than 10 percent of the workforce, and in 1971 almost 85 percent of food by value was imported. Government in the 1970s has given priority to the development of commercial agriculture together with the potentially rich fishing and forestry industries. Mineral production—oil, argonite, and solar salt—is the other major contributor to GNP besides tourism.

The rate of economic growth has been relatively high. GNP rose by 5 percent per annum at constant prices between 1975 and 1977. The balance of payments has been healthy. Economic growth, especially in the tourist industry, has been associated with substantial foreign investment, especially from North America and the United Kingdom, which has been encouraged by favourable laws and taxation policies since 1955. The Bahamas have also begun to develop as an important international financial centre.

Despite government intervention to aid agriculture and the manufacturing industries, the structure of the economy is recognized as being unbalanced. Primary production has considerable potential, but is hindered by the absence of efficient commercial techniques, while manufacturing is hampered by the lack of a skilled labour force.

The Bahamas were ruled by the United Kingdom until 1973. After Columbus's landing in the Bahamas in 1492, Spanish colonists transported the indigenous inhabitants to other islands and then abandoned their settlement. British settlers, mainly from Carolina and Jamaica, together with their slaves, arrived and took control from the midseventeenth century. British loyalists and their slaves swelled the population after the American War of Independence. A plantation slave economy survived until the 1830s, and British landowners retained social and political dominance into the twentieth century.

Representative parliamentary institutions were established by the British settlers, but political authority was entirely in the hands of United Kingdom colonial officials until 1964, when the local assembly gained legislative power. However, the governor, appointed in the United Kingdom, had executive power until 1973.

When the Bahamas became politically independent within the Commonwealth in 1973, a United Kingdom-style parliamentary government was established, and remains in force. The prime minister and Cabinet are appointed by the governor general, chosen by the United Kingdom government, but require the support of the House of Assembly, which is elected by popular franchise. The constitution also provides for a nominated Senate and an independent judiciary.

The Progressive Liberal Party has held the largest number of seats in the House of Assembly since the 1960s. Its leader—Lyndon O. Pindling—became prime minister in 1962, an office he continued to occupy into

the 1980s. There has been a high degree of political stability with little change from constitutional patterns established at the end of colonial rule.

2. Aims of Education

The aims of education in the Bahamas have been stated in the 1962 Education Act, in the 1973 *White Paper on Education* and in the minister of education's Communication to the House of Assembly in 1975. The 1962 Act stated the aims of education to be:

to enable the children of the Bahamas to understand their privileges and responsibilities as members of the community, to contribute to the progress and well-being of the country by the full development of their natural abilities, and to earn an adequate livelihood as adults.

Statements in the 1970s stressed that education should help to achieve greater economic self-sufficiency, a greater sense of the dignity of labour, the Bahamianization of public life, and the development of personal attributes based on Christian principles. The 1975 Communication also called for the attainment of equality of opportunity. Society-centred objectives stress the consolidation of national autonomy and identity and the more balanced economic development of the country.

3. Size and Structure of the Educational System

The formal education system has four stages. Primary schools have a six-year course and take children aged from 5 to 11. Junior high schools provide a three-year course for children aged 11–14 while senior high schools have a two-year course for pupils aged 14–16.

There is little upper-secondary schooling, by the normal definition of the term, nor full university education. Postschool education is provided in the College of the Bahamas, which offers a variety of two-year academic and vocational courses leading to an associate degree. The college was created in 1974 by amalgamating the two teacher-training colleges, a technical college, and an upper-secondary school. It retains the functions of its former separate parts. Official policy anticipates that it will eventually provide courses to bachelor's-degree level. Bahamian students can enter departments of the University of the West Indies in other former United Kingdom islands. This university has an extramural branch in the Bahamas. Many Bahamian students go to Europe or North America for higher education.

In the more sparsely populated areas, there are still many "all age" schools covering the primary and junior-secondary stages (reflecting an older school structure) and combined junior and senior high schools.

There are both government and government-supported independent schools at each level. In 1981–82, 22 percent of all pupils were in independent schools, a proportion that was fairly constant at each level. However, all four special schools for children with learning disabilities were independent.

Education has been compulsory for the 5–14 age group since the 1877 Education Act. Compulsory education is free in government-supported schools. The long-standing provision of widespread basic education is reflected in the literacy rates, which were 90 percent in 1960 and 93 percent in 1979. While schooling beyond 14 is not compulsory, the majority of pupils stay at school until 16. In effect, complete schooling is provided for most children though there are dropouts as well as underprovision in more remote areas.

Total school enrolment (government and independent) in 1981–82 was 60,519 in 225 schools, with pupil numbers per school ranging between 9 and 1,750.

There is little education outside the formal school and college system apart from on-the-job vocational training and some government evening institutes.

4. Administration and Finance

All government educational institutions are controlled by the Ministry of Education and Culture, which implements legislation passed by the House of Assembly. The ministry has some control over independent schools. There are no regional or local authorities with major educational powers. The ministry provides resources for government schools and grants to independent schools. It appoints teachers, determines curriculum, and controls the junior-secondary examinations. However, the senior-secondary examination is still administered by the University of London in the United Kingdom.

In 1978, 23.4 percent of current government expenditure was devoted to education (22 percent of all government spending), which represented 8.2 percent of GNP. These figures compare with 18.6 percent of current expenditure (19.4 percent of total spending) and 4.9 percent of GNP in 1970. These comparatively high proportions, and the increases in the 1970s, indicate the high priority given by government to the development of education.

5. Teaching Personnel

The pupil:teacher ratio for government and non-government schools as a whole was almost 21:1 in 1981–82. This favourable situation is distorted by the uneven distribution of population, so that the ministry did not meet its targets for 1982 of 35 pupils per primary class, 30 per junior-high class, and 25 per senior-high class. No class of over 40 was recorded. Ratios in the independent schools have tended to be more favourable.

Of the 2,901 teachers, 2,144 were in government schools in 1981–82. Of the latter, 23 percent were untrained. The figure in primary schools was higher at 28 percent. While 83 percent of teachers in ministry schools were Bahamian, the proportion was only 67 percent in secondary schools. Dependence on expatriate teachers fell in the 1970s.

Primary-school teachers are trained in two-year post-

secondary courses at the College of the Bahamas. Secondary-school graduate teachers still require education and training abroad, which is an obstacle to the full Bahamanization of the educational system.

6. Curriculum and Examinations

The curriculum is decided by the Ministry of Education. A curriculum division was established in 1969–70 and is charged with curriculum reform. Religious education is compulsory. In secondary schools, the other core subjects are mathematics, English language, science, social studies, physical education, and a practical subject (woodwork, technical drawing, home economics, or agriculture). There is also some provision for modern languages (normally Spanish), art, and music. Government statements emphasize the need for more weight to be given to technical and vocational studies especially in senior-secondary schools.

Textbooks and other learning materials are imported, largely from the United Kingdom and North America. There are considerable shortages of books, especially in mathematics and science, as well as a lack of equipment for subjects with a strong practical base.

Pupils pass automatically through the grades of schooling. There are two main examinations. The Bahamas Junior Certificate examination is taken by pupils at the end of the junior-high-school course or in the first year of senior high school. It is similar to the examinations that were set in many United Kingdom colonies and was modelled on the former United Kingdom junior-secondary-school certificate, though it has always been controlled by the Bahamian Ministry of Education. It is an academic examination. Pupils may gain passes in individual subjects. In 1981, 76 percent of those who sat passed in one or more subjects. The most popular subjects in 1981 were English language, arithmetic, English literature, and religious knowledge. Technical subjects are not offered.

The University of London General Certificate of Education (GCE) Ordinary-level examinations are taken at the end of senior high school. These are also academic and subject-centred examinations, with a strong United Kingdom orientation. In 1980, 39 percent of entrants passed one or more subjects but only 3 percent passed the five subjects needed for entry into higher study. A very small number of pupils sit for the Advanced-level examinations, which are required for entry to higher education institutions in the United Kingdom.

The London GCE examinations act as a major barrier to the entry of more students to higher education, especially since pass rates are so low. They also hinder efforts to make the examination system more technical and vocational in character and to loosen the cultural links with the United Kingdom. However, these influences are diluted in the College of the Bahamas, where courses have a strong United States flavour, which is encouraged by institutional links with universities in Florida.

7. Major Problems

By the standards of many parts of the Caribbean, the system of education in the Bahamas is highly developed. Universal primary and lower-secondary education has been effectively achieved. Teachers are available and fairly well-trained. Expenditure on education is high. Government has identified two major problems: first, that of extending education at the upper-secondary and tertiary levels, without which Bahamian cultural autonomy and educational self-sufficiency will be difficult to achieve; and, second, that of weakening the dominant United Kingdom academic tradition so that the educational system can respond more effectively to economic, social, and cultural conditions in the Bahamas.

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Bahrain

S. Issan and D. J. Daniels

The State of Bahrain consists of a group of over 30 islands, many extremely small, situated about 25 kilometres off the east coast of Saudi Arabia and about the same distance from Qatar. The total area of the country is 669 square kilometres (258 square miles) of which 599 square kilometres (231 square miles) is formed by the three main, interlinked islands. Manama, the capital, is on the northeast of Bahrain Island. About 20 percent of the total area of Bahrain is under cultivation—the average farm size being about 15 acres.

Islam was introduced in AD 630 and since then Bahrain has remained part of the Islamic world. Its history can be traced back some 40,000 years, and in Sumerian, Babylonian, and Assyrian times Bahrain (known then as Dilmun) was an important link in sea trade.

In 1507, the Portuguese established Bahrain as a trading centre and military post. During the following three centuries, the country was successively invaded by Persia, Oman, and other states. The Al-Khalifa tribe had conquered Bahrain by the 1770s and, in 1869, a Perpetual Treaty of Peace and Friendship was signed with the United Kingdom, under which Bahrain became a British Protectorate until it declared total independence in 1971 and signed a new treaty with the United Kingdom. It was accepted as a member of the United Nations in the same year. Bahrain is governed

by a 17-member cabinet and through a comprehensive administrative system developed since the 1920s.

Bahrain is experienced in the acquisition of demographic data. During the period 1941 to 1981, there were six censuses (see Table 1). The 1981 census indicated a population increase of 142,779 or 66 percent in the previous decade. The majority of the population are Shiite or Sunnite Moslems.

Development in Bahrain began prior to the utilization of its oil resources in the 1930s. Although deposits of oil are small in comparison to those of neighbouring states, the economy of Bahrain is heavily dependent on oil and allied activities, which provide approximately 80 percent of total public revenue. The first attempt towards industrial diversification occurred in the early 1970s when an aluminium factory (ALBA) was constructed; in 1984 it employed some 4 percent of the labour force.

The trade and services sector is an important source of income. Government services, trade, banking, finance, transport, and communications generate about one-third of the gross domestic product. Commercial banking increased dramatically during the 1970s; by 1984 Bahrain had 64 licensed offshore banking units. In the early 1980s there was a total of 170 banks operating and the figure is rising steadily.

Table 1
Population change 1941–81

	1941	1950	1959	1965	1971	1981
Total population	89,970	109,650	143,135	182,203	216,078	358,857
Number of Bahrainis	74,040	91,179	118,734	143,814	178,193	242,596
(%)	(82.29)	(83.15)	(82.95)	(78.93)	(82.47)	(67.6)
Number of Non-Bahrainis	15,930	18,471	24,401	38,389	37,885	116,261
(%)	(17.71)	(16.85)	(17.05)	(21.07)	(17.53)	(32.4)

Additional construction activity was generated by this economic diversification and by the construction of a causeway to Saudi Arabia due for completion in about 1986.

1. Policies and Objectives of Education

The policy of the Ministry of Education is based upon the following objectives: (a) education for all children of school age; and (b) the raising of educational standards to meet the needs of both the students and of the country's socioeconomic development. Priorities are: continuing educational expansion; improving the efficiency of all government employees; developing curricula to meet individual and community needs; continuing to build new schools; strengthening technical and vocational education to meet the growing demands of commerce and industry; and increasing literacy and developing adult vocational education.

2. Size and Structure of the Educational Effort

Bahrain has one of the largest school populations in the Middle East and education is receiving particular attention from the government. Some 70 percent of the population is under the age of 20, with 67,379 children enrolled in the country's 140 schools in the 1979-80 academic year.

Although education is not yet fully compulsory, legislation is being drafted to ensure schooling for children until the age of 16. Table 2 indicates the number of students by level in the academic year 1980-81.

Preschool education—nursery and kindergarten (for

2- to 6-year-olds)—is outside the formal educational system. Such schools are supervised cooperatively by the Ministries of Education and of Labour and Social Affairs. Most teachers have been trained as welfare officers. Some 7 percent of the relevant age population are enrolled in nurseries or kindergartens.

Primary education is the first rung in the educational ladder and starts at the age of 6. It lasts six years and ends with a promotion examination for entry to the first grade of the intermediate school. A core curriculum operates to develop children and to provide them with the basic general culture and skills of good citizens.

Intermediate education lasts three years. The curriculum is divided into separate interrelated subject and "activity" periods. Students who complete the third year of intermediate education are awarded the intermediate certificate. Secondary education lasts three years and is subdivided into general, industrial, and commercial streams.

In Bahrainization plans, secondary education is of vital importance. A five-year plan for its development has been approved. It envisages a reduction in the number of students in general secondary education from 63.7 percent to 35.0 percent for males and from 80.0 percent to 45.0 percent for females and an increase in the number of commercial and industrial secondary-level students. Courses introduced or being considered include medical services, hotel and catering, home economics, agriculture and livestock breeding (started in 1982), and printing and hairdressing (started in 1983). The improvement plan for secondary education is part of the government's attempt to redress the imbalance between secondary education, on the one hand, and the

Table 2
Number of students and classes in all schools by level and sex 1980-81

Level	No. of classes			No. of students		
	Total	Female	Male	Total	Female	Male
Primary						
General	1,227	564	663	44,109	20,305	23,804
Religious	3		3	45		45
Intermediate						
General	437	200	237	16,430	7,394	9,036
Religious	2		2	32		32
Secondary						
General						
Science	97	45	52	2,874	1,334	1,540
Arts	95	54	41	2,763	1,604	1,159
Commercial	60	35	25	1,678	927	751
Industrial ^a	45		45	1,071		1,071
Health Science	4	4		61	61	
Religious	3		3	20		20
Total	1,973	902	1,071	69,083	31,625	37,458

^a Full-time vocational training students not included

needs of the country and the wishes of the students, on the other hand, while taking into account existing educational facilities.

Private education is supervised by the Ministry of Education. In 1981 there were 15 private schools and 27 private nurseries and kindergartens. The total budgets were BD 1,858,707 and BD 412,917 respectively.

The University College of Science, Arts, and Education of Bahrain (UCB) had some 600 students in 1980, increasing to 1,000 in September, 1982, with similar sharp increases planned for the following few years. The Gulf Polytechnic, which is similarly an independent and semiregional institution, has approximately 900 full-time and 900 part-time students.

Another cooperative project is the University of the Arabian Gulf. This is a regional university established by the states of the Arabian Gulf and planned originally to have 10,000 students by the year 2000. Its campus, in the planning stage in 1984, is to be in Bahrain, but its first intake of students (premedicals) was accepted by UCB in September 1982 on a contract basis. A further semiregional institution is the Hotel and Catering School.

There are many institutions which offer training specifically suited for their employees; major companies

so involved include Gulf Air, Cable and Wireless, ALBA, Bahrain Petroleum Company (BAPCO), and the banks. Many vocational courses are also provided at the Gulf Polytechnic.

The "10,000" training programme, by which some 10,000 Bahrainis are to have vocational training during the five years 1981-85, and the secretarial programme of the High Council for Vocational Training have budgets incorporated into that of the Ministry of Labour and Social Affairs.

3. Curricula

Many alterations have recently been made to curricula by the appropriate ministry directorate, working in liaison with the University College of Bahrain, some of whose staff have been involved in textbook production, and different specializations have been introduced. One of the most important features of the new curricula is the introduction of free-choice subjects. The extracurricular activities are decided by the individual school to meet its own students' needs and interests. In the final three years, students have to choose between arts and science-based courses, and science-stream students have to narrow their choice still further in the final two years.

Table 3
Educational expenditure as a percentage of public expenditure 1971-80 (Bahraini dinars)

Fiscal year	Current expenditure	Nonrecurrent expenditure	Total	% of total government expenditure
1971	4,410,566	215,019	4,625,585	20.4
1972	4,632,248	146,178	4,778,426	21.6
1973	5,357,119	499,087	5,856,206	17.9
1974	6,879,008	486,534	7,365,542	9.5
1975	9,605,822	799,425	10,405,247	8.7
1976	11,306,090	799,375	12,105,465	6.0
1977	17,047,691	3,874,057	20,921,748	8.1
1978	20,106,316	4,818,000	24,924,316	8.8
1979	23,143,414	4,692,646	27,836,060	9.4
1980	28,166,718	4,438,021	32,604,739 ^a	9.4

^a About 66.4 percent of this sum was devoted to salaries

Table 4
Individual student cost per year and level 1975-80 (Bahraini dinars)

Type of School	Sex	1975-76	1977-78	1979-80
Elementary	Male	67	160	225
	Female	70	141	228
Intermediate	Male	126	187	250
	Female	126	214	260
General secondary	Male	187	277	366
	Female	158	268	377
Commercial secondary	Male	—	281	366
	Female	—	267	402
Technical secondary	Male	307	720	995
	Female	—	601	1254
Religious education	Male	—	—	—

4. Teachers and Teacher Training

Training for teachers in primary and intermediate education is offered by the University College of Bahrain. Postgraduate courses are also available for secondary-school teachers in certain areas of study. Inservice educational training is also offered at the university after the recent integration with it of the teacher-training centre. Inservice education in science education is also catered for at the M.Ed. level.

5. Administration and Finance

Administration of the various stages of general, technical, and vocational education is mainly centralized. The Ministry of Education also supervises private education, literacy and adult education, and the training programmes set up by various educational bodies.

The University College of Science, Arts, and Education and the Gulf Polytechnic both have a certain measure of autonomy. The University College of Bahrain has a nominated board of trustees with the minister of education as ex officio chairman. The Gulf Polytechnic is jointly funded by Bahrain, Qatar, the United Arab Emirates, and Oman. Its board of governors has the same ex officio chairman as the university. The College of Health Sciences, involved in paramedical training, is administered by the Ministry of Health.

Education and training are mainly financed by the state, there being separate budgets for the Ministry of Education and for the various colleges and institutions of higher education. School expenditure is summarized in Tables 3 and 4.

6. Major Problems

The main problems to be faced during the 1980s and 1990s will be the upgrading of the educational standards

of school teachers and the replacement of expatriate secondary teachers (mainly Egyptians) by qualified Bahrainis. Much of the effort of the University College of Bahrain is being channelled in this direction.

It will also be necessary for the various tertiary institutions to work ever more closely together to ensure that the community has the necessary trained and educated persons to fill the posts which will become available in an increasingly business- and service-centred economy. Liaisons and potential amalgamations are under active consideration.

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Bangladesh

E. Sattar

Bangladesh consists mainly of low-lying land and encompasses one of the largest river deltas in the world. It covers an area of 142,797 square kilometres (55,134 square miles). The climate is tropical monsoon with distinct wet and dry seasons. Heaviest rainfall occurs from June to October; the winter months are dry and cool.

Formerly part of British India, Bangladesh became the eastern wing of the new Moslem state of Pakistan in 1947. Neglected politically and culturally, and exploited commercially, the eastern wing split from Pakistan in 1971 to form, after a nine-month war of liberation, the new nation of Bangladesh.

The population of Bangladesh in 1981 was 90 million. It is a rapidly growing population which numbered 29

million in 1901, increased to 42 million by 1942 and has more than doubled since then. The estimated population for 2001 is about 150 million people. The density of population in 1981 was 1,675 per square mile, excluding riverine areas. Urbanization is 12 percent. Family-planning efforts have reduced the rate of population growth from over 3 percent to 2.2 percent per annum in 1981. With almost 50 percent of the population aged 15 years or less, the population will go on increasing for several decades even if the growth rate drops to 1 percent in 1990, as envisaged by the government.

There are minority ethnic groups mainly in the border regions of the north and east. The language spoken by over 99 percent of the people is Bengali and, although

regional dialects are also spoken, there is no language problem in education.

The main occupation of the country is farming. Rice is the main cereal crop. The main exports are jute, leather, and tea. Only 9 percent of the country is forested. Fish is the main protein source. Natural gas is present in large quantities and forms the basis of the fertilizer and chemical industries as well as being used increasingly for domestic consumption.

Bangladesh is one of the poorest countries in the world with a per capita income of about US\$100 per annum. Through a series of five year plans the government is projecting development in phases while trying to solve the major problems of poverty, unemployment, and illiteracy. Education is seen both as a basic right for all citizens and also as a means to raise productivity and solve socioeconomic problems. The major goals for the 1980s are to eradicate illiteracy, make primary education universal by 1985, improve technical education, and increase the number of trained teachers.

1. Formal and Nonformal Education: Structure and Enrolment

The formal school system has three stages—primary, secondary, and tertiary. There are over 43,000 primary schools in the country, 8,500 secondary schools, 600 higher secondary colleges, and 6 universities. Table 1 presents enrolment figures in 1980.

At the primary-school level there were 8.2 million students enrolled in 1980. As there were an estimated 12 million children in the primary-school age group, 30 percent remained outside the system. The primary-level age group participation rate of 71 percent gives a false impression because 60 percent of the children who start school drop out by class 3. Of those enrolled, only 30 percent complete the five years of the primary-school course. Dropout is due to poverty, and most occurs in classes 1 and 2, with female dropout being higher than male. These facts help to account for the massive illiteracy of 70 percent for males and 87 percent for females, according to the 1974 census.

Facilities in primary schools are inadequate in terms of buildings, furniture, educational equipment, and number of teachers. The employment of shift systems in many schools, especially those in urban areas, eases the congestion to some extent. Although universal education by 1985 is a declared government aim, it may not be possible under existing conditions. Enrolment was stagnant from 1975 to 1980.

Of the 8,500 secondary schools, 2,000 are junior-high schools and the rest high schools. The former conduct classes 6–8, the latter classes 6–10. All students follow a general course up to class 10.

In the secondary schools, enrolment totalled 1.9 million in 1980. Dropout is high and female dropout is higher than male. By class 10, only 18 percent of the students were female. Age-group participation of students was 14 percent.

At the tertiary levels there are three types of institution: 230 intermediate colleges, taking classes 11 and 12; 370 degree colleges, taking classes 13 and 14 and awarding degrees; and 6 universities, to which students may apply after successful completion of class 12. Over half the degree colleges have intermediate sections attached. There are about 60 professional colleges of medicine, law, engineering, technology, music, agriculture, etc.

Of the six universities, two are specialized, one in agriculture and the other in engineering. The other four universities offer a full range of courses, including postgraduate study in all departments.

Due to rapid and unplanned expansion of colleges in the early 1970s and to a 100 percent increase in student numbers at the universities in the same period, standards have fallen and not all university degrees are recognized abroad. Females are disadvantaged throughout the system due to the influence of traditional Moslem mores.

There is a parallel religious (Moslem) educational system, the *madrasahs*, which enrol an estimated 0.4 million students, 95 percent of them male. They have dropout problems similar to those of the secular schools.

Nonformal education is in an embryonic stage. A few

Table 1
Enrolment, 1980^a

Level	Male	Female	Total	Female participation (%)	Age-group Participation (%)
Primary	5,182,031	3,037,282	8,219,313	37	71
Secondary (Classes 6–10)	1,427,934	465,125	1,893,059	25	14
Tertiary ^b (All colleges)	236,960	43,468	280,428	15	2
Universities ^c	24,923	5,776	30,699	19	
Total	6,871,848	3,551,651	10,423,499	34	

a Source: BANBEIS 1981 b 1978 c 1979

nongovernment organizations run nonformal education courses in a wide range of subjects. An adult education department has always worked on a small scale to enable adults to become literate through evening classes. In 1980, the government launched a mass literacy programme. Government officers in charge of mass literacy have been appointed all over the country. Usually, local educational institutions and their teachers are involved in this work.

2. Administration and Finance

Administration is centralized under the Education Ministry, which is located in the capital Dhaka. All decision making, allocation of funds, and approval of textbooks are carried out in Dhaka. For administrative purposes the country is divided into 4 divisions, 20 districts, 73 subdivisions, and 473 *thanas*. At each of these levels educational administrators are appointed. For the secondary level there are boards of secondary education in each of the four divisions.

Since 1947, less than 5 percent of the public-sector budget has been devoted to education. The second five-year plan of Bangladesh allocates 4.5 percent of total resources to education. Table 2 shows the major allocations within education during the plan periods. The enhanced budget for primary education, 41 percent of the total for the second plan period, marks a new direction in education, a break with the past.

Primary education is almost wholly financed by the government; only 16 percent of the primary schools are private. At the secondary level over 95 percent of the schools are private and they rely on tuition fees and some government grants to cover costs. The majority of colleges are private, and the government has begun a gradual takeover of colleges to raise standards. The universities are autonomous but receive 85 percent of their financial needs from the government. The cost per student at the primary level in 1980 was 128 takas per annum; at the university level 8,000 takas per annum.

Student government scholarships are available to meritorious students from primary to university levels. A few private charitable organizations offer scholar-

ships and some are channelled through outside foreign agencies. The percentage of students receiving any kind of scholarship is well below 0.5 percent.

3. Teachers, Curricula, and Examinations

The average number of teachers per school at the primary level is four, and about 65 percent are trained. At the secondary level the majority of teachers are graduates, as are all teachers at the intermediate, college, and university levels. Table 3 shows the numbers of teachers in 1978.

Primary teachers are trained at primary training institutes; secondary teachers at teacher-training colleges and the Institute of Education at Dhaka University. The quality of training has improved since the 1950s and the number of trained teachers in the system has increased.

There is a national committee on curriculum which decides general policies and the content of curricula for classes 1 to 12. Experts in the various disciplines are invited to write textbooks which, after scrutiny, are sent to the school textbook board for publication. Schools throughout the country use the same textbooks.

In the classroom there are few teaching aids at primary level where methodology is mainly rote memorization. At the secondary level "chalk and talk" is the main method. Lecturing is the most common teaching method at the college and university levels.

Throughout the system from class 3, English is the major foreign language studied but the general level is low and this presents difficulties at the universities as few major texts are in Bengali. The dominance of English has declined since liberation when English-medium education was abolished. In science and technology, English perforce remains the language of instruction.

Annual examinations begin in class 1 and are a feature throughout the educational system; they determine promotion to the next class. National-level examinations are held in classes 10 and 12 and are conducted by the secondary school boards.

4. Research and Major Problems

Educational research by the Institute of Education at Dhaka University and research foundations has been devoted to the collection of data about the system.

Table 2

Financial allocations to education in first and second five year plans (1973-78, 1980-85)^a

	1973-78 (%)	1980-85 (%)
Primary	18.78	41.00
Secondary	19.49	18.53
Technical	5.21	7.37
Colleges and Universities	19.43	11.21
Other ^b	37.18	21.89

a Source: Second five-year plan of Bangladesh 1980-85

b Teacher education, mass literacy, *madrasah*, scholarships, etc.

Table 3

Numbers of teachers, 1978^a

Level	Male	Female	Total	Female (%)
Primary	171,735	14,409	186,144	7.7
Secondary	79,984	6,778	86,762	7.8
Colleges and universities	10,005	1,312	11,317	11.5
Total	261,724	22,499	284,223	7.9

a Source: BANBEIS 1981

particularly at the primary level. Currently, refinement of data collection continues along with work on the educated unemployed, the brain drain, and nonformal aspects of education.

The eradication of illiteracy, low female enrolment at all levels, universalization of primary education, and quality and control of examinations are some of the main problems to be faced in the 1980s and 1990s. Additionally, the decentralization of administration and the financing of the anticipated expansion at the primary level must be tackled. The ever-increasing population poses a problem as it is estimated that by 1990 there will be 20 million children of primary-school age alone. By launching a mass literacy movement in 1980 and by making universal primary education a goal by 1985, the government has demonstrated its intention to do something about these major issues.

Barbados¹

A. Layne and L. G. Atherley

Barbados is a small, independent island country in the West Indies. It is approximately 160 kilometres east of its nearest neighbours, St Vincent and St Lucia, and 500 kilometres north of the South American coast. The country is very flat and densely populated, with about 250,000 persons in 430 square kilometres (166 square miles).

The population of Barbados has grown at a very modest rate since the mid-1940s—at an average annual rate of 1.3 percent between 1946 and 1960 and 0.4 percent between 1960 and 1980. This slow rate of population growth has resulted from massive emigration and a successful birth-control programme, which started during the 1950s (Levitt and McIntyre 1967 pp. 81–84, Ebanks et al. 1974 p. 35). A modern system of roads and transportation puts the population (which speaks a single language—English), within easy reach of schools. The literacy rate is 98 percent.

Barbados, which was granted political independence in 1966, after more than 300 years as a British colony, has been ruled since that time by one or other of two political parties, which both claim to be “democratic socialist”. However, although blacks constitute more than 90 percent of the population and have dominated the formal political system since the 1950s, whites, who constitute 4 percent of the population, continue to dominate the economy. They own the major economic enterprises and are heavily overrepresented in the top managerial and executive positions in the private sector of the economy (Barrow and Greene 1979 pp. 16–39). The economy itself is mainly service oriented, with the services sector accounting for 69 percent of the gross

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domestic product (GDP) at factor cost in 1980; the distributive subsector is the most important contributor to the value of the services sector (Worrell 1982 p. 2). The traditional dominance of imports over exports has been substantially reduced, but in 1980 imports still accounted for 88 percent of GDP as compared with 81 percent for exports.

From the 1950s and particularly after independence, development planning has been concentrated on the acceleration of the growth of the manufacturing industry and tourism, in an effort to move away from the centuries-old reliance of the economy on the sugar industry. The educational system is expected by the government to provide trained personnel, particularly for the manufacturing and tourist sectors, and in the development plan, 1979–83, the personnel function was considered a more urgent matter than continued educational expansion to meet social demand for education.

1. General Structure and Size of the Educational Effort

Formal education in Barbados has a history of 300 years, going back to 1680. The present system developed largely from the 1890 Education Act, which established rigid distinctions between and even within levels of education. The many changes that have evolved over the years are now reflected in a new Education Act (1981), which seeks to provide greater equality of opportunity. The structure of the formal system is shown in Fig. 1.

Nursery-school education is not well-established although many children under 5 years attend either private school or, if there is space, the infants departments of primary schools. Primary schools provide

¹ The authors are responsible for the choice and presentation of facts contained in this article and the opinions expressed therein which are not necessarily those of UNESCO and do not commit the organization.

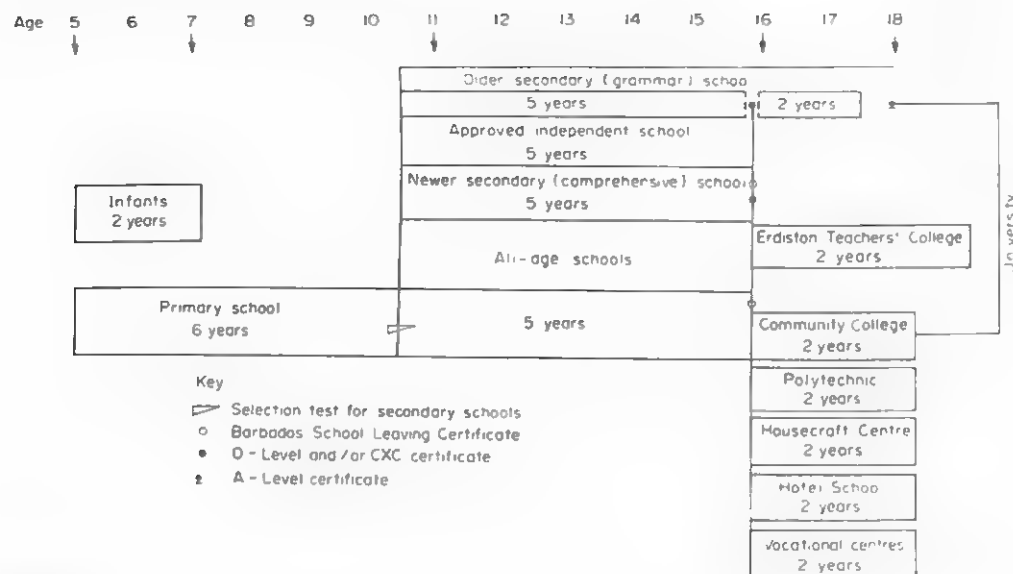


Figure 1
Structure of the formal educational system

education for children between 5 and 11 and are now broadening their curriculum to put as equal stress on science, social studies, and the creative arts as they have always done on reading, writing, and mathematics.

The secondary system comprises older secondary (or grammar) schools, newer secondary (or comprehensive) schools, and approved independent (private) schools. Some secondary education is also provided in senior departments attached to a few primary (all-age) schools. Entrance to secondary schools is by a selective 11+ examination and this, in spite of some effort to zone schools, leads to stratification of the secondary system.

Tertiary-level education is provided in five national institutions and the sixth forms of older secondary schools. There is also one campus of the regional University of the West Indies sited in Barbados.

In all, there are some 115 primary or all-age schools, 21 government-maintained secondary schools (9 older secondary and 12 new secondary), and 6 tertiary-level institutions. Some 61,000 persons, or about 25 percent of the population, are enrolled in these 142 educational

institutions. Some effort is made to cater for the handicapped and there is one school each for the deaf, blind, and mentally retarded. All education in public institutions has been free since 1962. The private sector has some 37 primary and secondary schools with a total enrolment of just under 8,000.

By independence, not only all the 5–11 but virtually all the 5–14 age group were enrolled in school (UNESCO 1969 p. 10). The challenge has therefore been to increase the scope of educational coverage for the 15–19 age group. In 1980, the overall enrolment ratio for secondary schooling was about 60 percent as compared with 55 percent in 1967–68.

The increased opportunities for secondary education have been predominantly in the newer secondary schools (Table 1). Enrolment in approved independent (private) schools has actually been on the decline. In comparison with the newer secondary schools, enrolment in the older secondary schools has grown since the 1960s at a negligible rate. The children of economically advantaged parents normally attend private primary

Table 1
Secondary-school enrolment, 1960–61 to 1980–81^a

	Government			Private		
	Older secondary	Newer secondary	Vocational centres	Total	Approved independent	Grand total
1960–61	4,135	3,777	—	7,912	5,197	13,109
1964–65	—	—	—	—	—	—
1968–69	5,288	8,640	—	13,928	7,238	21,166
1972–73	5,267	11,133	—	16,400	7,635	24,035
1976–77	5,626	13,438	—	19,064	6,816	25,880
1980–81	6,685	13,838	725	21,248	4,941	26,189

^a Source: Ministry of Education

schools and then occupy a disproportionately high share of the places in the older secondary schools (Shorey et al. 1974 pp. 7-14).

The total enrolment in tertiary education is about 5,000, or approximately 19 percent of the 20-24 age group. This ratio is higher than that usually found in developing countries. However, the educational pyramid is still very narrow at the apex. Some 948 Barbadian students, or 3.5 percent of the estimated 26,742 persons in the 20-24 age group, were enrolled at the local campus of the University of the West Indies in 1980 (Correa 1980 p. 40).

In nonformal education, adult education courses sponsored by the government have historically provided an opportunity for students to improve their academic qualifications, but there has been some attempt to cover areas and interests not catered for in the formal system. Since 1979 a nonformal skills-training programme has been launched by the Ministry of Labour, with financial and technical assistance from a number of international agencies. The programme aims to reduce the chronically high level of open unemployment by providing youth in the 17-25 age group with specific work skills which are alleged to be in demand.

2. Administration and Supervision

The administration of the educational system is centralized. A permanent secretary, who is responsible to the minister of education, looks after the administrative details. The chief education officer, also responsible to the minister, oversees educational services. The Education Act (1981), when fully implemented, will bring about a measure of decentralization by setting up local government bodies responsible for the management of the specific schools under their jurisdiction.

The Ministry of Education will, however, maintain its supervisory control and advisory services through its professional officers—planners and administrators, subject specialists, curriculum developers, and audio-visual-aids officers.

3. Finance

Governmental expenditure on education increased from 0.2 million Barbados dollars (BDS) in 1933-34 to BDS\$4.2 million in 1960-61 and from BDS\$20.4 million in 1970-71 to BDS\$86 million in 1978-79. Such expenditure amounted to 10 percent of the national budget in 1933-34 and to approximately 20 percent during the 1970s (Table 2).

Unit costs to government have been high. For instance, during the period 1970-71 to 1973-74, they rose from BDS\$125.60 to \$158.78 for primary education, from BDS\$241.31 to \$277.49 for the newer secondary schools, and from BDS\$421.91 to \$425.95 for the older secondary schools (UNESCO 1974 p. 59). In relation to primary schooling, it should be noted, however, that the ratio of the unit cost for the newer secondary schools declined from 1.9 to 1.7, while that for the older secondary declined from 3.4 to 2.7. This relative decline is also observed when the unit costs are examined in 1965 Barbados dollars, that is, the value of the local currency on the eve of independence. According to this criterion, the unit cost per primary-school student fell from BDS\$107.05 in 1971 to BDS\$103.45 in 1979, while that per secondary school student fell from BDS\$256.70 to \$194.49 (Correa 1980 p. 242). It is important, however, to recognize that the unit cost for secondary education has remained much higher than that for primary education. Comparable data for tertiary education are not available. It may be interesting to note that, in the immediate postindependence period, the unit cost for university education was 30 times higher than that for primary education (UNESCO 1969 p. 19).

The government provides financial assistance to the approved independent schools. Such expenditure amounted to BDS\$1.2 million or 5 percent of the total public expenditure on education in 1978-79 (Correa 1980 p. 236).

Not only is education free but government provides a schools' medical service, subsidized school meals for primary pupils, subsidized transportation, subventions towards uniforms at the secondary level, and free text-

Table 2
Expenditure on education, selected years

Year	Total education (BDS\$ million)	Total government expenditure (BDS\$ million)	Education as % total government expenditure
1933-34	0.24	2.36	10
1940-41	0.46	3.68	13
1950-51	1.91	12.09	16
1960-61	4.21	34.18	12
1970-71	20.44	104.73	20
1977-78	75.42	378.34	20
1979-80	86.04	448.40	19

a Source: Ministry of Finance and Planning. Barbados Estimates

Table 3Number and distribution of teachers in government schools at October 31, 1980^a

Type of school \ Qualification	Graduate teachers		Specialist teachers ^b		Nongraduate teachers		Total		
	No.	% trained	No.	% trained	No.	% trained	No. of teachers	No. trained	% trained
Primary and all-age	43	95	4	75	1,436	68	1,483	1,025	69
Vocational Centres	1	100	6	50	38	18	45	11	24
Newer Secondary	271	73	33	91	410	58	714	465	65
Older Secondary	295	62	27	70	40	45	362	221	61
Total	610	69	70	71.5	1,924	65	2,604	1,722	66

a Source: Ministry of Education b Specialist teachers in home economics or industrial arts who are on a special salary scale

books. In addition, government provides a variety of scholarships, exhibitions, and awards for university studies in fields judged to be very important for national development.

4. Supply of Personnel and Curriculum Development

Data are presented in Table 3 on the number of teachers in Barbadian public schools in 1980 and on the distribution of the teachers by type of school and qualification. The data show that most of the 2,604 teachers were in the primary and all-age schools, followed by the newer secondary schools; that university graduates comprised 23 percent of the total number of teachers and were predominantly in the new and older secondary schools; that virtually all of the special-grade teachers were in the newer and older secondary schools; and that 66 percent of all the teachers were trained.

Teachers with university degrees are trained at the University of the West Indies, while nonuniversity graduates and teachers for primary and all-age schools are trained at Erdiston Teachers' College.

The National Curriculum Development Council was established in 1973 and is responsible for the development and spread of the curriculum for primary and secondary schools. To date it has developed programmes for primary schools and is at the pilot stage for some subjects in secondary schools. In addition, the recently established (1973) Caribbean Examinations Council (CXC) assists secondary schools in developing programmes in the subjects which it examines.

Very little educational research is undertaken and is usually conducted by staff of the University of the West Indies or consultants from international agencies. Annual reports, which are produced by the Ministry of Education, are restricted to data on the number of schools, pupils, teachers, and money spent on education.

The pupil:teacher ratio in Barbados is quite low. The ratio (excluding headteachers) stands at 26:1 in primary

schools; 20:1 in newer secondary schools; and 19:1 in older secondary schools.

5. Examinations

Promotion from one grade to another in schools is virtually automatic, but pupils are normally streamed into ability groups. The examination for the transfer of pupils from primary to secondary school is at 11+ and has tended to favour pupils from socially advantaged homes. Pupils from grammar (or older secondary) schools and approved independent schools and the top students of the newer secondary schools take the Ordinary-level examinations. These were formerly set by overseas examination boards in the United Kingdom, but since 1979 they have been set by the CXC. Some preuniversity students sit Advanced-level examinations from United Kingdom examining bodies. Less able students from the newer secondary and all-age schools take the Barbados School Leaving Certificate.

While examination results have improved, they still leave much to be desired, especially in the newer secondary schools. The expectation is that greater efforts at relevant curricula will lead to more imaginative teaching/learning and have better results.

6. Major Problems

There are at least three major problems that have to be tackled by the educational administration. One is the nature and extent of the involvement of the private sector in education. The current growth of the private primary schools may be functional for economically advantaged parents who seek to ensure places for their children in the older secondary schools, but it is also socially divisive.

A second problem has to do with educational finance. The government has already signalled that the rate of growth of educational expenditure will be reduced (Barbados, Government of 1979 p. 128). If such a

reduction is not to lead to increased educational inequality, formulas will need to be found for reducing the disparities in unit costs within and between the different educational levels. The amount and kind of governmental assistance to an approved independent sector with a declining enrolment will also demand attention.

Third, education in Barbados is potentially an explosive political matter. The implementation, if it does occur, of the Education Act (1981), which seeks, among other things, to bring the older secondary schools under governmental jurisdiction, will be resisted by powerful groups in society, which have a vested interest in the preservation of the status quo. Again, efforts to restructure the University of the West Indies by the year 1984, so as to give the governments of Barbados, Jamaica, and Trinidad and Tobago direct economic and political control over the campuses in their countries, are already being resisted by significant groups in the noncampus countries and in the university community.

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Belgium

P. Vanbergen

Belgium has been an independent country since 1830. With a total area of 30,521 square kilometres (11,779 square miles), it is one of the smallest countries in Europe. It is bordered to the north by the North Sea and the Netherlands, to the east by the Netherlands, the Federal Republic of Germany, and the Grand Duchy of Luxembourg, and to the south and the west by France. From geographical, historical, and cultural points of view, Belgium has always appeared as a crossroads of Western Europe.

In spite of its small area, it comprises examples of the many different geographical features which characterize this part of the European continent. There is a great variety of landscapes. One can distinguish, from north to south: the Flemish plain, which is the end of the great continental plain; the limestone plateau in Hainault and north of the river Meuse; the plateau of Condroz south of Namur, formed of sandstone crests and wide hollows; and the higher plateau of the Ardennes. The highest point is 694 metres.

Density of population, geographical shape, and climate explain why pupils have no difficulty in attending school regularly and schools which are close to their homes. In principle, parents have the right to have a primary school within 4 kilometres of their homes, a lower-secondary school within 12 kilometres, and an

upper-secondary school within 20 kilometres. If there is no school within these distances, the state must pay for transport to school.

Table 1 presents data showing the evolution of the population from 1900 to 1983. The population density per square kilometre increased from 301 in 1960 to 316 in 1970 to 323 in 1980. Figure 1 presents the population distribution by sex and age in 1981. The total population is still increasing slightly. Mostly this is due to the

Table 1
Total population estimates 1900-83

Year	Total population	Male	Female	Population of foreign nationality
1900	6,693,548	3,324,834	3,368,714	
1940	8,294,674	4,089,305	4,205,369	
1950	8,625,084	4,250,328	4,374,756	
1960	9,128,835	4,477,933	4,650,891	
1970	9,660,154	4,729,643	4,930,511	696,282
1980	9,855,110	4,818,944	5,036,166	890,038
1981	9,848,647	4,810,349	5,038,298	878,577
1982	9,854,589	4,812,473	5,042,116	885,720
1983	9,858,017	4,813,139	5,044,878	891,235

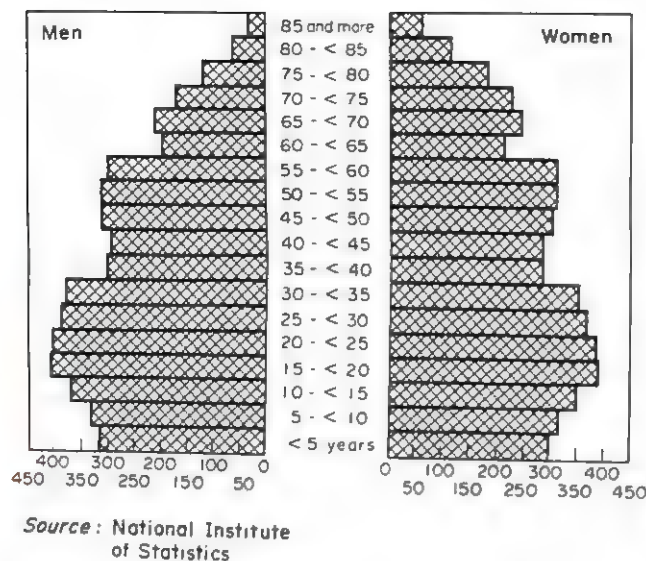


Figure 1
Population distribution per sex and age group

increasing number of migrants, after the Second World War and especially since 1960. The birth rate has gradually decreased since 1960. In 1981, it was 12.6 percent per 1,000 inhabitants. In the late 1970s, there was a slight increase in the birth rate among migrants. In some communes there are high proportions of migrants. For example, in Brussels there are 246,000 migrants per 1 million inhabitants and in certain communes within Brussels the percentage of foreigners is from 26 to 49. Foreigners and migrants come from over 20 different countries. The largest groups in 1981 were: Italian (281,000), French (103,000), Moroccan (105,000), Dutch (66,000), Spanish (58,000), Turkish (63,000), German (27,000), and Greek (21,000). The decline in the number of pupils in the total school system and the ever-increasing proportion of children of migrants are two major preoccupations at the beginning of the 1980s in the field of education.

Since the fifth century, there has been a linguistic frontier dividing the territory into two main parts: to the north, the Dutch-speaking region (Flanders), with 57 percent of the total population, and to the south, the French-speaking population (Wallonia) with 33 percent of the total population. In the eastern part of the country, there is also a small German-speaking region—0.65 percent of the population. Brussels, the capital, is a bilingual region (Dutch-French) and contains 10 percent of the population.

The Flemish and the French communities each have their parliaments (called Flemish—or French—community Councils) and, since 1981, their own executives, responsible for cultural matters, education, international cultural relations, and what is called *matières personnalisables* (meaning issues related to personal problems such as health care, aids to deprived categories of citizens, etc.). The language of education in the

schools organized or subsidized by the state must be the language of the region. In Brussels, education may be given in Dutch or in French.

In 1981, the working population was 3,663,692 out of a total population of 9,858,982. There were 399,013 unemployed. Just over 63 percent worked in the tertiary sector, 33 percent in the secondary sector, and 3 percent in the primary sector. The main changes since 1974 were that about 5 percent fewer were working in the secondary sector, about 11 percent more in the tertiary sector and unemployment accounted for 9 percent more. From 1970 to 1977, the number of males working had decreased slightly (from 57 to 53 percent), and the number of females had increased (from 20 to 25 percent). In particular, the proportion of both males and females working over the age of 55 years had decreased as had those under 20 years of age. The major increase was in females in the 25–35-year-old group. During the period 1974 to 1978, wage-earners' incomes increased by 55 percent. The Belgian Luxembourg Economic Union increased its trade deficit (exports minus imports) in millions of Belgian francs from –60,860 in 1974 to –210,000 in 1980, to –247,800 in 1982.

Belgium is slowly changing from a unitarian state into a nation some components of which have partial autonomy. A modification to the Constitution in 1970 and two laws enacted in 1980 gave some power to legislative and executive bodies not only at community but also at regional levels. The system is intricate and complex. While the powers of the communities are in the “person-related” fields, those of the regions are in the social and economic fields.

The inhabitants of Flanders and the Dutch-speaking inhabitants of Brussels constitute the Flemish community. The inhabitants of Wallonia and the French-speaking inhabitants of Brussels constitute the French community. Although a German Cultural Council is foreseen by the Constitution, the German-speaking districts are part of the Walloon region. The new structure, with autonomous community and regional executives, began operating in December, 1981.

Education legally lies with the communities (community councils and executives), but one article of the Constitution states that certain matters lie with the national parliament and the national Government. These are: school obligation, structures of the educational system, diplomas, subsidies, wages and salaries, norms of the school population, and the problem of “school peace”, that is, respect for the outlines of the national agreement of 1958, establishing a compromise between those who are backing official schools and those who are backing private (mostly Catholic) schools.

In 1981 a “concertation committee” was created between the national government and the community executives in order to determine more precisely which educational matters should be ruled at national level and which at community level. These negotiations are continuing.

1. Goals of the Educational System

The main goal, in the field of education, is to build a system giving everybody the greatest and best possibilities of personal development: as an individual, as a member of society, and as a participant in economic activity.

Equalization of chances for women, for all social classes, special provision for disadvantaged people (whether genetically or socioculturally), and better preparation for today's society and active life are the principal concepts which inspired the educational reforms in the 1970s. At the beginning of the 1980s, there were still major discussions about the appropriate structures, means, and techniques for achieving such goals. One fundamental debate is between those who are convinced that progress can only be significant and solid if opportunities are given to as many people as possible, and those who are afraid that quantity could prejudice quality. What is certain is that democratization of education has made great progress since the 1940s.

2. Structure and Size of the Educational Effort

2.1 Formal Education

The educational system comprises four levels: preschool education (2½–6 years), primary education (6–12 years), secondary education (12–18 years), and higher education. Secondary education is in a transition period. A new structure, created by a law of 1971, is developing and expanding gradually; but the conventional structure

still applies in a number of schools. Higher education is divided into nonuniversity education and university institutions.

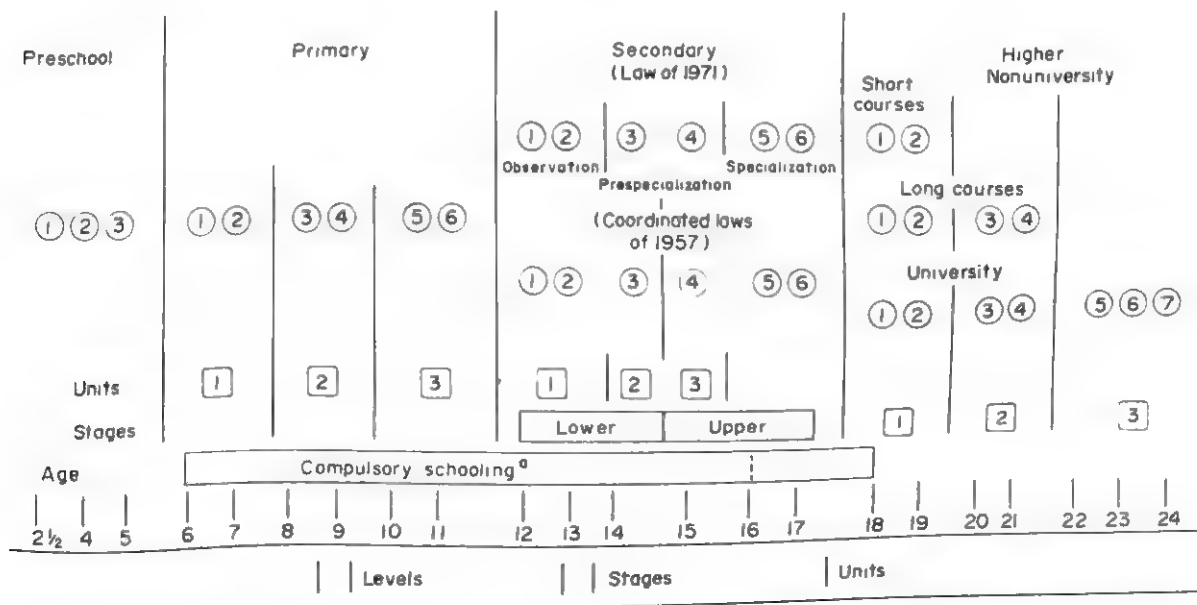
According to a new law, enacted in June 1981, school attendance is compulsory from 6 to 18 years of age, on a full-time basis until 16 years and on a part-time basis from 16 to 18.

Figure 2 depicts the formal system of education. The law of 1971 created a more differentiated secondary-school system. This is shown in Fig. 3.

Table 2 presents the increase in enrolment in secondary and higher education from 1954 to 1982. There are virtually no sex differences in enrolment until the end of secondary school. However, at university level, in 1980–81, out of 95,882 students, the sex percentage distribution was 53.06 percent male and 33.51 percent female among Belgians and 10.09 percent male and 3.34 percent female among foreigners. In 1974, the percentage of Belgian women enrolled was 29.17. The imbalance is expected to be remedied rapidly in the coming years, given the increase in the proportion of females in secondary schools.

At the beginning of the 1980s, some 60 percent of an age group left school with at least a certificate of either general or technical or vocational lower-secondary education; 35 percent left with at least a certificate of either general or technical upper-secondary education; and 25 percent left with a certificate of tertiary education (11 percent with a university degree).

Psycho-medico-social centres are a structural part of the educational system. Their role is to provide personal guidance and psycho-education aid to children and



^aPossibly part-time from 16 to 18

Figure 2
Educational system by level and type

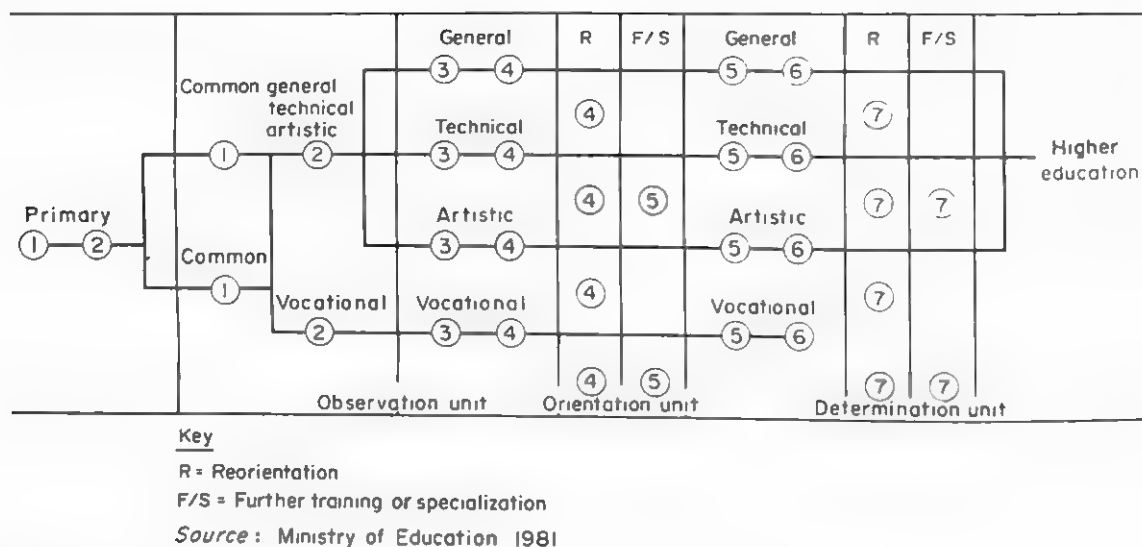


Figure 3
 Organization of secondary education according to the law of July 19, 1971

adolescents attending preschool, primary, or secondary school respectively. Each school is related to a centre.

2.2 Nonformal Education

Both Ministries of Education (the one for Dutch-language schools and the other for French- and German-language schools) organize and subsidize courses for adults (*enseignement de promotion sociale*—education for social promotion).

The courses for adults are free. They are organized essentially to correspond to technical and vocational education at secondary and higher levels. They are open to all age groups beyond 14 years. Students may attend a single course or a set of courses or a complete programme leading to a diploma of secondary or higher education. It is a very flexible system, which can be organized in the form of modules and which can easily adapt itself to needs and demands. At present, some 200,000 students (76 percent of whom are under 25 years of age) are attending such courses. (Any one-year age group in Belgium contains about 130,000 persons.)

Correspondence courses have been organized since 1965. They are also free and for adults. They cover preparation for the state examination of secondary education, for the administrative examination, for recruitment and promotion in the civil service, and for the

continuous education of teachers. They are now organized by the communities.

The communities organize, through the National Employment Office (ONEM), professional training based on the needs of the economy. The training centres are under direct management (the centres for young unemployed) or created in cooperation with companies. Nearly 20,000 persons a year attend these courses.

The communities are also responsible for basic and further training for the middle classes. They provide the necessary knowledge for taking up an independent profession (e.g., crafts and shopkeeping).

The basic training is essentially in the form of an apprenticeship under contract with a master. More or less 24,000 youngsters a year are under contract. They receive practical training in a company, completed by a theoretical training in one of the 31 existing centres for permanent education, which are private centres subsidized and controlled by the ministry.

There are also courses, attended by about 12,000 young people per year, which provide training in technical, commercial, financial, and administrative management of small- or medium-sized businesses. The Department of Agriculture also organizes several types of course for persons aged 18 years and over. In the cultural field, there are artistic courses for social pro-

Table 2
 Enrolment increases in secondary and higher education 1954–82

Level	1954–55	1959–60	1964–65	1969–70	1974–75	1979–80	1981–82
Lower-secondary education	303,751	398,588	448,116	498,255	512,423	533,401	535,349
Higher-secondary education	80,471	102,121	172,359	219,621	262,662	318,504	325,610
Nonuniversity higher education	13,416	19,790	33,027	49,650	72,709	96,845	107,109
Universities	23,282	29,150	42,441	69,634	80,980	92,484	95,882

motion, organized on the same principle as the technical courses for social promotion.

There is also a wide range of nonformal educational activity organized with the support of both community ministries by private "organizations for permanent education". Because of the principle of community autonomy in cultural matters, legislation, regulation, and methods of working vary from one community to another. The activities are nevertheless subsidized, thus ensuring the protection of ideological and philosophical tendencies. Activities are decentralized and generally run by private organizations. The main areas covered are: permanent education of adults, sociocultural promotion of workers, expression and creativity centres, art centres and cultural centres, training programmes for migrants, training of sociocultural animators, and public reading. According to a decree of 1976 (French community), organizations creating and/or training critical and responsible citizens are favoured. Active leisure is favoured only in so far as those activities have the same perspective and are either means to or stages of the permanent educational process.

For each community, the amount of national government subsidy was estimated at about BF300 million a year (1981).

3. Administrative and Supervisory Structure and Operation

Article 17 of the Belgian Constitution lays down that: "There shall be freedom of education; any measure hindering such freedom shall be prohibited; penalization of infringement shall be governed by law." In

Belgium, therefore, the organizing power lies with various bodies, and education is thus provided by the state, the provinces, the communes, and free institutions—the largest of which by far is the Catholic Church. The law provides that identical help be given to all authorized forms of education within set limits and conditions; this "help system" includes the guarantee of the possibility of choosing between religious or non-religious education; state education must remain neutral.

As was indicated in the introductory section above, from 1970 onwards the legislative power in the field of education was shared by the national parliament and the two community councils (French and Flemish); since December 1981, the executive power has also been shared by the ministers of education responsible to the national parliament, and between the ministers and the members of the Flemish and French community executives responsible to their own community councils. Although the principles of the distribution of power were defined by the Constitution in 1970, the application in practice is still a matter of discussion.

Schools which are subsidized by the state must have their programmes approved by the minister. But a law of 1971 states that a "concertation committee", composed of representatives of state schools, official-subsidized schools, and private-subsidized schools, will give advice to the minister about timetables and programmes for secondary schools. According to another law (1973), ministers of education have to organize a concertation with representatives of provinces, communes, and private bodies so far as important matters related to structure and pedagogy are concerned. In this way, school

Table 3

Total budget of education and culture expressed in percentage of the national budget and GNP

	Ministry of National Education and Culture ordinary budget	General state budget	GNP	MEC	
				State budget	GNP
	millions of BF	millions of BF	milliards of BF	%	%
1953	8,058	75,551	411.3	10.7	1.96
1955	9,133	85,612	456.5	10.7	2.00
1960	18,875	117,122	571.5	16.7	3.30
1965	35,157	182,705	848.9	19.2	4.37
1970	60,299	295,410	1,297.1	20.4	4.65
1972	82,046	371,102	1,583.1	24.3	5.18
1973	99,924	410,250	1,797.8	21.1	5.58
1974	110,654	473,400	2,115.9	23.4	5.23
1975	143,255	650,358	2,335.8	21.8	6.13
1976	175,103	804,459	2,642.5	21.8	6.63
1977	197,526	938,705	2,882.6	21.0	6.83
1978	208,046	1,074,128	3,083.6	19.4	6.79
1979	224,101	1,172,534	3,253.5	19.1	6.89
1980	234,894	1,260,164	3,464.9	18.6	6.78
1981	235,745	1,495,096	3,588.8	15.8	6.57
1982	254,903	1,597,684	3,851.2	15.9	6.62

Table 4
Budget by level of education 1980

Level	Amount (milliards of BF)	Unit cost per student (BF)
Preprimary and primary	57.3	47,039
Secondary	110.2	129,723
Higher	39.6	195,082

organizing bodies, both official and private, are closely associated with the definition of educational policy.

4. Finance

Table 3 presents the changes in funding for education from 1953 to 1982. The figures in Table 3 include only the funds allowed by the state for the functioning of its own schools and the subsidizing of official and private schools. To those funds must be added the BF15 milliard a year for school-building and the expenses of provinces, communes, and private persons. In 1982, the expenses of provinces were BF13 milliard and of communes BF38 milliard. The fees paid by private persons have never been evaluated. The 1980 budget by level of education is shown in Table 4.

In order to promote the democratization of the educational system, student grants and loans were allocated by the state from 1950 (by the communities since 1981). For the academic year 1980-81, the total amount for grants was estimated at BF2 milliards. Some 210,000 students in secondary education and 60,000 students in

higher education received such grants. These grants ranged from BF26,000 per student at the secondary level to between BF13,000 and 100,000 per student in higher education.

5. Supplying Personnel

Table 5 presents the total number of teachers by level of education and by language in 1980, and Table 6 presents the distribution of teachers in secondary school according to their qualifications.

Preschool, primary, and lower-secondary teachers are trained in the *écoles normales* (two years of higher, nonuniversity education). Other teachers and professors must have a university degree; in nonuniversity higher education of the "long type" (at least four years), a doctorate is required. Teachers of technical subjects at secondary level are trained in technical *écoles normales* or recruited on the basis of their activity in industry after having obtained a certificate of educational proficiency (CAP).

Table 5
Number of teachers 1979-80

Level	Total	French- and German-language schools	Dutch-language schools
Preschool	17,227		
Primary	49,288	7,515	9,712
Secondary	131,217	21,955	27,333
Higher nonuniversity	17,296	52,368	78,849
Universities (equivalent full-time appointments)	4,054	7,915	9,381

Table 6
Distribution of teachers in secondary education by qualification

	Total	French- and German-language schools	Dutch-language schools
With university degree	31,599	14,508	17,091
With higher, nonuniversity degree	68,858	24,258	44,600
Others	30,760	13,602	17,158
Total	131,217	52,368	78,849

6. Curriculum Development and Teaching Methodology

Curriculum content and methods must be approved. The ways in which this is done have already been mentioned in Sect. 3. Curricula are generally proposed by groups of inspectors and teachers chosen by the organizing body. Representatives of parents' associations and of industry often participate in such commissions.

Dutch-, French-, and German-language schools each have their own terms of reference. But in each community, it is still possible to have a wide variety of curricula. Learning materials are written by inspectors or teachers as private persons and printed and disseminated by private editors. Inspectors for preschool, primary, secondary, and higher (except university) education ensure that the curricula are implemented.

Secondary-education certificates and diplomas delivered by schools must be accepted by an assessment committee (*commission d'homologation*), composed of teachers of official and private schools. The committee checks if the level provided by the programme has been achieved.

The following trends can be discerned in teaching methods: accent is being put on reference to concrete examples and current events; importance is given to noncompartmentalized activities; group work is being increased; intensive use is being made of modern teaching techniques; and self-instructional techniques are becoming more popular.

7. Examinations, Promotions, and Certification

In primary education, the teacher decides if a pupil may move up from one grade to the next. In secondary schools, decisions concerning orientation and promotion to the next grade are taken by a class council, which is composed of all teachers teaching that grade. The tendency is to base assessment on positive results rather than on failures, on a teacher's perception of a pupil's ability to attend courses in the next grade rather than on the fulfilment of formal goals. Certification is the responsibility of each school, but, in secondary school, there are certain restrictions as mentioned above in connection with inspectors and the assessment committee. From 1970 onwards, there has been a movement to change the modes of evaluation. It is now required that assessment should be collegial, total (implying going further than the measurement of cognitive aptitudes and taking into account the entire personality), corrective, prospective, and continuous.

For vocational studies, a distinction at the end of grades 4 and 6 of secondary education is made between the achievement of learning goals (and the possibility of continuing studies in the following grade or level) and success in a qualification test (*épreuve de qualification*) of professional requirements. The qualification

certificate is granted by a qualification jury, consisting of teachers and professionals.

Apart from the qualification certificates, other certificates can also be awarded in secondary school. These are the certificate of lower-secondary education (after grade 3), the certificate of upper-secondary education (after grade 6), and the "diploma of aptitude for higher education" (also after grade 6).

8. Educational Research

Educational research expanded considerably during the 1960s and 1970s in the relevant university departments. The main fields covered include the implementation of new structures, curricula, methods, and techniques in preschool, primary, and secondary schools; scientific approach to new problems such as evaluation systems, remedial education in response to sociocultural handicaps and failures, and introduction of new elements of knowledge (new mathematics, computer science, etc.) or new methodological aids (audiovisual aids, computer-assisted learning, etc.); analysis and clarification of educational aims and goals; inservice training of teachers; and the building of predictive models in education.

There is a clear trend for research and educational practice to come together. Increasingly, researchers work with classes in close collaboration with teachers and on subjects defined in common. Teachers go to the universities to indicate their problems, gather information, and participate in research activities. It is a very promising situation both for the further development of research and for educational practice.

9. Major Problems

There will be a financial problem in the 1980s and 1990s. The further development and democratization of education implies more students in higher education and special provision in secondary schools to resolve problems such as low achievers, drop-outs and early school-leavers, high rates of grade repetition, and techniques of individualization for handicaps of all kinds.

Preschool, primary, and secondary education are engaged in a thorough renewal of their structures, contents, and methods in order to make them more responsive to the needs of society and the expectations of individuals. These reforms have to be implemented and, at the same time, refined and deepened.

In particular, the contribution of education to the equality of opportunity must be increased and new efforts must be made in order to raise the educational level of the whole population. At the beginning of the 1980s, only 60 percent of youngsters had a certificate of lower-secondary education and 40 percent a certificate of upper-secondary education. The further development of Belgium as a democratic society and as a country with an advanced economy requires new progress in the educational system.

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Belize

S. Musa

Belize is in Central America and is bounded on the north by Mexico, on the west and south by Guatemala, and on the east by the Caribbean Sea. The country has a total land area of 22,963 square kilometres (8,866 square miles). The capital is Belmopan, built in 1970 in the interior, away from hurricane-force winds. The old capital, Belize City, is the main seaport and commercial centre.

Although the road network has been improved and expanded steadily since the 1960s, some rural communities especially in the southern region (the Toledo district) are still not easily accessible, with the result that it is difficult for some of the remote villages to be properly serviced by the educational system.

According to the 1980 population census, the total population of Belize is 145,353. The growth rate for the preceding decade was 2.12 percent. Some 39,771 persons reside in Belize City, 76 percent of whom are creoles of African ancestry. Taken as a whole, the ethnic distribution of the population is: creole 39.7 percent, mestizo 33.1 percent, Garifuna 7.6 percent, and Maya 9.5 percent. The remaining 10 percent of the population comprises East Indians, Europeans, Chinese, and persons of Middle Eastern origin.

It is estimated that nearly 52 percent of the population lives in rural areas. Some 51 percent are males. Of great significance to the educational system is the fact that 58 percent of the population is under 20 years of age.

The predominant religion is Roman Catholic (61.7 percent), followed by Anglicans (11.8 percent) and Methodists (6 percent). The main language spoken is English (over half the population) and Spanish is also widely spoken (by 31.6 percent of inhabitants). The Garifuna and Maya languages are well-preserved in these ethnic groups.

Agriculture is the mainstay of the Belizean economy and the rural communities are primarily engaged in farming. In the north cane growers are found, in the south the citrus, rice, and banana industries, and in the west the cattle industry and the producers of corn, beans, and peanuts.

In the offshore cayes, particularly in San Pedro Ambergris Caye, there is a thriving tourist industry. In the urban centres are the service industries and light industrial plants, including a fairly large garment factory in the Belize district. The Belize City Port provides employment for many stevedores and brokerage-firm employees. But by far the biggest single employer is the government of Belize for there are more than 4,000 public officers, policemen, and workers in the statutory boards (electricity, water, and telephone). In addition, there are some 1,300 primary-school teachers and some 400 teachers in secondary- and tertiary-level education.

Agricultural products accounted for 31 percent of the gross domestic product (GDP) in 1981. The GDP at 1981 prices was 270 million Belize dollars. Industry made up 20 percent. The value of gross imports for 1981 was 323 million Belize dollars and the value of domestic exports was 146 million Belize dollars. The trade imbalance is significant and this deficit is usually financed primarily by foreign economic assistance and by investment and remittances from Belizeans living abroad. The economy is extremely open and very vulnerable to external factors, compounded by an overdependence on sugar, the price of which is severely depressed on the world market.

Belize attained political independence in 1981. It is a parliamentary democracy. The British monarch is head of state represented in the country by a governor-general. The primary instrument of policy is the cabinet led by the prime minister. There is a two-party system and elections are held every five years.

The chief political goals of the party in government in 1982 (the Peoples' United Party, PUP) are to be found in the *Manifesto for the New and Progressive Revolution*. They include effecting economic growth, the expansion of trade, increasing production, and improving the life of the poor. According to its state policy on education, the Belize government's objectives are:

- (a) to emphasize national consciousness, social res-

possibility, and orient the system towards the developmental needs of the country;

- (b) to improve and expand primary-education facilities;
- (c) to improve the quality of teacher training;
- (d) to rationalize and expand secondary and post-secondary education, with particular emphasis on technical, managerial, and professional training; and
- (e) to work toward the establishment of the university of Belize.

1. General Structure and Size of the Educational Effort

Preschool education as a part of the formal system of education is a recent development in Belize. In 1980, the Ministry of Education and Sports appointed an education officer with responsibility for the establishment and supervision of preschools. A number of government and community preschools then sprang up throughout the country. It is expected that the number of such schools will continue to grow during the 1980s.

Primary education is universally free and compulsory by law between the ages of 6 and 16 years for 36,036 pupils in 22 government schools and 183 government-aided denominational schools. Four private schools in Belize City charge fees ranging from 4.00 to 15.00 Belize dollars per month. Seven private schools outside Belize City do not charge fees. Private schools have a total enrolment of approximately 1,000 pupils. There are eight grade levels known as infants 1 and 2 and standards I to VI.

Until 1981, pupils, on completion of the primary-school course, sat one, two, or three examinations, namely (a) the Primary School Certificate examination, which was open to all students in standard VI and to private candidates; (b) the government scholarship examination, which was open to Belizeans between 11 and 13 years of age (200 scholarships and some bursaries to secondary schools are awarded annually on the basis of the results of these examinations); and (c) the National Common Entrance (NCE) examination conducted by the Belize Association of Principals of Secondary Schools (BAPSS), which makes use of the Educational Testing Service placement tests of the United States. The results in these examinations were the main criterion for the selection of students to secondary schools, though government scholarship winners had a free place in any secondary school of their choice. The first two examinations were free, but the National Common Entrance examination required an entrance fee of 4.00 Belize dollars per pupil.

In 1982, the Ministry of Education and Sports introduced a new examination, the Belize National Examination (BNE) to replace all three examinations. It is intended to serve the purposes of certification at the end of primary school, selection of students for schol-

arship and bursary awards to secondary schools, and selection of students for entrance to secondary schools.

At the secondary stage, there are 22 schools, 5 of which are managed and administered by the government. The latter are: (a) Belize Technical College, which admits students who have already completed at least 3 years of secondary education and wish to pursue 1- or 2-year courses in advanced academic studies, mainly in the sciences and mathematics, business studies, building trades, engineering trades, and home economics; (b) two junior secondary schools offering 3-year courses in academic and vocational subjects, including home economics, woodwork, metalwork, and technical drawing; (c) the Belmopan Comprehensive School offering a 5-year course in academic and vocational subjects, such as business studies, home economics, woodwork, metalwork, and agriculture; and (d) the Belize Vocational Training Centre which offers only a 1-year intensive course, 80 percent of which is practical work and 20 percent theory, for pupils who wish to study one of the following trades: plumbing, electricity, carpentry, masonry, and auto engineering. The remaining 17 secondary schools are private schools, with at least one in each of the six districts, and are managed by the churches or by a board of governors. Although these are private schools, they are government aided with the state assuming an increasing proportion of the cost.

Enrolment figures for 1980-81 showed that there were 6,233 students enrolled in secondary schools, comprising 2,863 males and 3,370 females.

At the tertiary level the Belize College of Arts, Science, and Technology (BELCAST), with constituent colleges which include St John's College Sixth Form, Belize Technical College Sixth Form, and the Belize Teachers' College. The first two are British-style sixth-forms, which cater for students wishing to sit the General Certificate of Education Advanced-level examinations. Junior colleges (styled after the American fashion) award associate degrees at the completion of a course of studies.

Continuous education programmes are generally intended for persons over 16 who need instruction of a remedial nature or who want to acquire specific knowledge or skills for occupational or other reasons. Continuing education programmes are operated by government ministries, the extramural department of the University of the West Indies, high-school extension departments, and voluntary organizations. Voluntary organizations involved in these programmes include the Christian Social Council and the Young Women's Christian Association, which offer home economics, arts and crafts, and remedial primary-level classes.

Although it cannot be claimed that Belize has an organized nonformal system of education it is expected that, as BELCAST grows and becomes more firmly established, it will continue the process of reaching out to the adults in the districts and helping to meet their educational needs at all levels. As such, it should play

a vital role in coordinating the efforts of the agencies currently involved.

2. Administration and Finance

All matters relating to education are ultimately the responsibility of the minister of education and sports, who has considerable powers under the Education Ordinance (1962) and the Amendment Ordinances (1967, 1970, and 1971). To advise the minister, there is a National Council for Education, consisting of the chief education officer and 15 other members appointed by the minister.

Responsibility for the administration of the system lies with the permanent secretary. The chief education officer functions as the chief professional officer and as adviser to the permanent secretary and the minister of education. There are two principal education officers, one for the primary system and the other for the secondary and further-education systems. There are 14 education officers, 5 of whom are stationed in five outlying districts. Their main functions are to supervise work in the schools and to assist in improving teacher effectiveness and the quality of education. One education officer is in charge of examinations, one is responsible for the Curriculum Development Unit, and one directs the Rural Education and Agriculture Programme (REAP) in primary schools. The remainder are posted in Belize City to service the city and rural schools in the Belize district.

There is a dual system of school management and considerable powers are given by law to managing authorities who are representatives of the churches in Belize.

The education budget for the fiscal year 1982-83 was 15,743 million Belize dollars, which constituted 8.3 percent of the total state budget. Of this, 53 percent was allocated to primary education, 26 percent to secondary education, and 13 percent to tertiary-level education.

As already indicated, the cost of primary schooling up to the age of 14 is borne by the state, although parents may be required to meet the cost of books and other materials. At the junior secondary schools, tuition and books are provided free of charge while a nominal tuition fee of 3 or 5 dollars per month is charged in the other government high schools. In the 17 government-aided schools, the student is expected to pay as much as 30 dollars per month for tuition, in addition to other special fees that may be charged. State contributions to government-aided schools include 60 percent of salaries of teachers and ancillary staff, 60 percent of other recurrent expenditure, and 50 percent of capital expenditure on approved projects.

At least 200 high-school and 50 sixth-form scholarships are provided each year by the Ministry of Education and Sports. Loans are also available from the Development Finance Corporation and smaller amounts from government sources to Belizeans paying their way through BELCAST or universities abroad.

3. Supply of Personnel and Curriculum Development

In 1982, there were 1,304 primary-school teachers, of whom 808 were certificated and 496 uncertificated. Certificated teachers include those with formal training and those who have passed a certificate examination administered annually by the Ministry of Education. Uncertificated teachers are high-school graduates or persons of lower academic background recruited into the service without any prior training or other professional credentials. In the 1950s, the goal of having all primary-school teachers trained (i.e., holding a diploma from a teacher-training institution) was set. In 1982, less than 40 percent of the teaching force had acquired this status. One reason for this is that the number of teachers who qualify each year is not enough to increase the percentage of trained teachers significantly or to offset the effect of emigration among trained teachers or of transfer to other jobs, which may be more attractive because of the promotion opportunities or the salaries they offer. Each year, about 80 teachers are recruited into a three-year course at the Belize Teachers' College and about 75 are released into the schools.

At the secondary level, there is a demand for university graduates to serve as teachers. In the 1980-81 school year, there were 392 full-time and 37 part-time teachers, of whom 132 full-time and 16 part-time teachers were graduates. Here again, the number of teachers considered to be suitably qualified is lower than is desirable partly because Belize does not yet have its own university and partly because there is also a demand for the most qualified persons to fill more attractive jobs in both the public service and the private sector. However, with the establishment of BELCAST, it is expected that, since more undergraduate coursework can be begun at home, more people will continue their education to complete degree requirements abroad. This will increase the number of qualified personnel for service in secondary and higher education.

The Curriculum Development Unit, headed by a curriculum development officer, was established in the early 1970s and serves the following functions: (a) to construct, in collaboration with teachers, up-to-date and relevant curriculum guides in all the basic content areas of the primary-school curriculum; (b) to orient teachers in the use of these curriculum guides; (c) to produce support materials relating to the school curriculum; and (d) to serve as a resource centre.

In addition to the curriculum development officer, there are three curriculum coordinators, each responsible for curriculum development in a particular content area, and a resource centre librarian, who looks after the resource centre, which makes a wide range of materials available to teachers in the field. The work of the unit covers the entire country and the curriculum guides produced are constructed, tried out, and implemented with the involvement in each phase of teachers from all parts of the country.

4. Major Problems

The major aspects of Belizean education that are expected to require continuing attention until the year 2000 are:

- (a) the establishment and maintenance of post-secondary education (notably through the establishment of the University of Belize) to meet the personnel needs of the country;
- (b) the production of suitable local educational materials, especially textbooks, for all levels and in appropriate content areas;
- (c) rationalization of the provision and management of education (i.e., the system of church/state control);
- (d) the provision of trained personnel sufficient in quantity as well as quality;
- (e) the development of a long-term educational plan, based on present and emergent needs, and the need

for educational research to inform the development of the plan; and

- (f) the availability of adequate funds for recurrent and capital expenditure necessitated by population increase and the new economic and social realities brought about by the attainment of independence in 1981.

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Benin

S. S. McIntyre

The People's Republic of Benin, called the Republic of Dahomey prior to 1975, is located in West Africa. It shares its boundaries with Niger, Nigeria, Togo, and Upper Volta. Its southern limit is defined by the Atlantic Ocean. Benin is a relatively small West African nation, its total land area being 112,334 square kilometers (43,372 square miles). From south to north, the natural regions of the country include: a flat lagoon coastal area, a fertile clay area, and the Dahomeyan plateaus. In the northwest are found the quartzite Atacora Massif, and in the northeast are found the Niger River plains.

There are an estimated 3.3 million persons living in Benin, comprising various ethnic and linguistic groups. French serves as the unifying official language. In the south are found the Fon, Yoruba, Adja, Ge (Mina), and Gun peoples. In the northern half are found the Bariba, Somba, and Dendi. The total density of the population is 19.9 persons per square kilometer; however, this averaged figure does not reflect the large range of differences—from 6.2 persons per square kilometer in the northeastern department of Borgou to 107.4 in the southern department of Atlantique. In general, the southern third of the country is the most densely populated. Both the official capital of Porto Novo (estimated population was 105,000 in 1975) and the de facto capital of Cotonou (with an estimated population of 178,000 in 1975) are located in the south on the Atlantic coast. In 1970, approximately 12.3 percent of the population lived in urban centers, while 87.7

percent lived in rural areas. Approximately 90 percent of the working population are engaged in agriculture (mainly at the subsistence level) (Hancock 1981, Decalo 1976).

The political history of independent Dahomey (Benin) has been one of instability perhaps due in part to a parallel history of unfavorable economic conditions. Dahomey gained independence from France in 1960 after more than half a century of French rule. Between 1960 and 1972, there were five military coups. The present civilian government, which was formed between 1979 and 1980, has developed out of the military government established in 1972. The new constitution, written in 1977, allowed for the election of the present National Assembly. The new cabinet includes six civilians (Hancock 1981).

The military regime of 1972 instituted a Marxist-Leninist ideological base with emphasis upon national development, the redistribution of wealth, and support of the agricultural sector of the economy (Decalo 1976). An attempted mercenary coup in 1977 and the effects of socialist policies on private French interests led to a period of strained international relations and insufficient foreign aid. Economic problems included a low national per capita income (US\$230 per person in 1978), an unfavorable trade imbalance (exports amounted to 37.7 percent of imports in 1973), a decline in the production of cash crops, and a relatively high annual population growth rate (2.8 percent in 1979) (Delury 1981).

Since 1979, the economic picture has improved with

the parallel improvement in foreign relations and the attainment of several financial-aid agreements for industrial improvement as a result of which income from exports is expected to double. The agricultural sector remains of primary importance. Cash crops include palm oil, cotton, coffee, cocoa, and groundnuts. Basic food crops include maize, cassava, and manioc. The World Bank is involved in helping cotton production, and the African Development Bank has given aid for the construction of a maize mill (Hancock 1981).

1. Structure of the Educational System

The basic structure of the educational system consists of a six-year primary school, a four-year junior-secondary school, a three-year senior-secondary school, and university education. Education is compulsory from age 5 to age 11. By 1979, 60 percent of primary-school-age children were enrolled (78 percent of males and 42 percent of females). In the same year, 37 percent of secondary-school-age youths were in school (49 percent of males, 25 percent of females). At the university-age level, 1.0 percent were enrolled (1.7 percent of males, 0.4 percent of females) (UNESCO 1981 pp. 111–16, 111–29).

Western education was introduced into the area by missionary efforts as early as the 1860s in the southern coastal areas and the early 1900s in the interior. The Roman Catholic missions played a dominant role in education in Dahomey during the colonial period. In 1965, 45 percent of Dahomey's pupils attended Catholic schools. By 1974, there were 450 Catholic schools with 2,500 personnel. During the colonialist period, Dahomey earned the title of Africa's Latin Quarter due to the relatively high numbers of educated intellectuals and professionals.

Following independence, the national government of Dahomey aimed to adapt the inherited French educational system to national needs. Changes in syllabi included more emphasis on agriculture and agricultural techniques. The government also set the goal of better geographic distribution of educational opportunity. Educational policies were formulated and put into effect by a national educational administration which comprised the Ministry of Education (the minister and two advisory councils) and the Directorate General (UNESCO 1971). In 1970–71, the national university was founded a few miles from Cotonou with French assistance. In 1975, it included six sections: three sections concerned with human sciences, the *Département des Études Littéraires et Linguistiques*, the *Institut National d'Administration Publique*, and the *Institut de Développement Régional*. In addition to university activities, research continued under the direction of the *Institut de Recherches Appliquées du Dahomey* (IRAD), the postcolonial continuation of the *Institut Français d'Afrique Noire* (International African Institute 1975).

2. Present Educational Policy and Future Directions

On September 10, 1974, the National Council of the Revolution under the direction of the Revolutionary Military Government adopted a reformed program of national education. The underlying goals of the reform were to: (a) redesign the national educational system in accordance with national needs; (b) equalize the geographic distribution of educational opportunity; (c) slow the growth of national expenditure on education, redistribute funds within the educational system, and exercise state control over the effects of foreign aid; (d) equalize educational opportunity by making education free, public, secular, and compulsory; and (e) optimize the effect of education by emphasizing practical training for employable skills.

The actual implementation of the program of educational reform has met with certain obstacles. Lack of adequate teacher-training structures led to the establishment of the National Institute for Educational Training and Research. The lack of suitable textbooks and teaching materials corresponding to new syllabi has led to the decision to produce materials within Benin. Formerly materials corresponding to French syllabi were obtained from France. The implementation of educational reform within pilot schools has proven to be expensive. In 1976, a national production campaign was launched which emphasized a view of scholastic establishments as units of production responsible for covering 20 percent of their expenses and functioning as cooperative organizations contributing to the economic and social development of the environment (Pliya 1979).

In conclusion, it must be noted that the educational system of the People's Republic of Benin is currently in a transitional stage. The extent to which the actual implementation of Benin's educational reforms succeeds will determine its effectiveness in contributing to the realization of national goals.

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Bhutan

N. Rinchhen

The system of education in Bhutan, as elsewhere, has undergone many periodic changes. At one time the only form of education in Bhutan was the religious instruction imparted to novices in monastic schools. These monastic schools, and the monks' hostels attached to them, were maintained at government expense. This system prevailed almost until the middle of the twentieth century, when a few parallel schools introducing elementary informal education were opened by the government in some important district towns. Other schools were opened and run by the public as private schools. These schools, despite their fluctuating standards, autonomous nature, and unrecognized status, gradually grew in number.

There were 29 government and 30 private schools in the kingdom by 1961 in addition to the monastic schools, when the first five-year plan for the socioeconomic development of the country was launched. In all the subsequent national five-year plans launched by the royal government, education has always received top priority.

With the inception of the first five-year plan in 1961, the Kingdom of Bhutan was for the first time in her history exposed to formal modern education under an organized system headed by a director of education and strengthened by an inspectorate. The system provided for free and universal education. Table 1 illustrates the progress the Education Department has made since the 1960s. By November 1983 there was a total of 196 schools, 1,957 teachers, and 52,122 students in Bhutan.

1. Structure of the Educational System

Any child who is 4 years old and above becomes eligible for admission to any primary school near to his or her home. All the schools are coeducational institutions. Almost all the central schools and the junior-high schools as well as quite a number of primary schools are boarding schools. Admission to central and junior-high boarding schools in class 6 is dependent on the results of the All Bhutan Class 5 Examination and in line with the country's social and cultural promotion programme.

Promotion to Classes 9 and 11 is determined on the basis of the All Bhutan Class 8 Examination held by the Education Department and Class 10 Examination conducted by the Council for the Indian School Certificate Examinations. Promotion to all other classes is

decided by the individual institution on the basis of continuous performance records.

There was until 1983 no higher education in Bhutan and Bhutanese students had to travel abroad to continue their studies at this level. Thus in 1981 there were, for example, 200 Bhutanese students studying in universities in India and 44 in other countries.

At the beginning of 1983 one of the Teacher Training Centres at Samchi in Southern Bhutan was upgraded to the status of National Institute of Education (NIE). This NIE offers training of both primary- and secondary-school teachers. The institute has a well-equipped language laboratory and library and the total intake capacity is about 200 trainees. The first batch of secondary-school teachers (B.Ed.) graduated in 1986. A Degree College has also been established in Eastern Bhutan at Kanglung which offers science, arts, and commerce degree-level courses. The first batch of graduates graduated in 1986. The Department of Education has plans to establish a small university in the late 1980s.

2. Administration and Finance

The Education Department which is part of the Ministry of Development is headed by a director of education. He is assisted in his work at the headquarters by the joint director, the Dzongkha adviser, the deputy director, the assistant director (accounts) and an assistant controller of examinations. In the field, the director is assisted by three regional education officers and a number of inspectors.

In addition to ensuring the smooth running of schools, the department is responsible for the production of suitable textbooks, drawing up of syllabi, organizing inservice courses for teachers, conducting public examinations, arranging training and further studies abroad, interschool tournaments, calling on assistance from various United Nations agencies, recruitment, posting, and promotion of teaching staff, etc.

Despite the difficult living conditions prevailing in the remote areas of the kingdom, the department makes every effort to maintain a high standard of education throughout the kingdom. In an attempt to achieve this, qualified and capable teachers are selected and posted as inspectors of schools. These inspectors and other officers of the department pay regular visits to schools and help the school authorities maintain the desired

Table 1
Enrolments in 1966 and 1985

Types of school	Number as at the end of the 1st five-year plan (March 1966)			Number as at the end of 1985		
	Number of schools	Number of students	Number of teachers	Number of schools	Number of students	Number of teachers
1. General educational institutions						
Primary schools	83	9,463	341	145	33,213	1,148
Junior-high schools	14	2,311	80	22	11,809	427
High schools	5	950	140	8	4,062	192
Junior college	—	—	—	1	251	30
Degree college	—	—	—	1	141	
Sub-total	102	12,724	561	177	49,476	1,797
2. Monastic and Buddhist schools and Sanskrit pathshalas						
Simtokha Rigney school	1	50	7	1	395	19
Monastic schools	—	—	—	16	984	34
Sanskrit pathshalas	—	—	—	5	291	11
Sub-total	1	50	7	22	1,670	64
3. Technical and vocational institutions						
Royal Bhutan Polytechnic, Deothang	1	50	6	1	165	21
Technical School, Kharbandi	—	—	—	1	274	24
National Institute of Education, Samchi	—	—	—	1	112	19
Teachers' Training Centre, Paro	—	—	—	1	27	7
Royal Commercial Institute	—	—	—	1	67	2
School for Sculpture	—	—	—	1	30	4
School for Painting	—	—	—	1	80	11
School for the Blind	—	—	—	1	26	4
Sub-total	1	50	6	8	781	92
Total	104	12,824	574	207	51,927	1,953
Tibetan Refugee school	—	—	—	4	195	4
Grand total	104	12,824	574	211	52,122	1,957

standard in teaching, administration, promotion of sports, national culture, and tradition, etc.

Books, stationery, and sports equipment are supplied free of charge to students in all schools, while free food is provided in all boarding schools. In some primary schools, midday meals are provided with the help of the World Food Programme and supplemented by the parents. Clothing is also provided in a number of central schools and in the college. No fees are normally payable although a nominal contribution has recently (1981) been introduced.

3. Curriculum and Syllabus

The core curriculum in all schools in Bhutan consists of English language, mathematics and Dzongkha (Nepali

in schools in southern Bhutan in addition to Dzongkha). The other subjects in the curriculum include English literature, social studies, history, geography, general science, physics, chemistry, biology, practical outdoor activities such as elementary agriculture, animal husbandry, and social forestry, and extracurricular religious and cultural activities. The syllabi, drawn up by the Education Department, are geared towards those prescribed for the ICSE Examination (class 10) and ISC Examination (class 12) by the Council for the Indian School Certificate Examinations, New Delhi, to which the central schools and junior college are affiliated. From 1984 onwards, however, the royal government will be setting up its own National Board of Secondary Education which will take the responsibility of conducting all these examinations and issuing certificates.

In addition, it will draw up a curriculum suited to the needs of the country.

English is the medium of instruction in all schools in the Kingdom of Bhutan. Sports and games are the major extracurricular activities. In addition to archery which is the national sport, students take keen interest in football, basketball, badminton, table tennis, racing, hiking, chess, and a number of other activities. An Interschool Football Tournament is held annually with the help of the National Sports Association of Bhutan, in Thimphu. All central schools, the junior college, as well as some other institutions, publish magazines and newsletters periodically.

4. Future Plans

A nation can become self-sufficient only when every citizen, as an active social and economic unit, has the capacity and the will to contribute towards the advancement of the nation. With this in view, the education system is becoming increasingly decentralized as more power is delegated to the chief district administrators at district level. This will enable local needs to be fulfilled more easily, especially with the active participation of the people at large. The day to day administration of primary schools will rest with the local authorities, while the supply of textbooks and stationery, science equipment, posting of teachers, provision of budget, drawing up of syllabi, conduct of public

examinations, inspections, and liaison between the local authorities and the United Nations agencies will be the responsibility of the Education Department.

The junior college is being upgraded from 1983 onwards to a full fledged degree college. It will conduct courses in science, commerce, and the humanities at degree level.

A National Board of Secondary Education has also been envisaged. Its syllabi and system of examination has already been approved by the equivalent committee of the Indian universities, while the certificates of class 10 and class 12 which are to be issued by the Bhutan Board of Secondary Education will be recognized by Indian universities and in other countries. The board is to be constituted soon.

The Royal Government of Bhutan is entering a new phase of bold experimentation from the fiscal year 1982, under the leadership of His Majesty King Jigme Singye Wangchuck. During the fifth Five Year Plan 1982–87, the royal government has decided to emphasize the need for qualitative improvement both in terms of academic standards and physical facilities in all the schools in the country. His Majesty has declared self-reliance as the ultimate goal of Bhutan in his coronation speech to the nation in 1974. Education has a vital role to play in bringing this about. Thus, while being geared towards the personnel requirements of the country, education also seeks to preserve the cultural and religious heritage of Bhutan and train students to be mature, responsible, and useful citizens of tomorrow.

Bolivia

I. Classen-Bauer

Bolivia is a large country with a small population and considerable ecological and cultural diversity. Its size (1,098,581 square kilometres or 424,162 square miles) is about equal to that of France and Spain together, and its population of only about 6.8 million is smaller than that of greater Paris. The population growth rate is 2.6 percent. About 54 percent of the population inhabit rural areas. Most live in the mountainous western part of the country called Altiplano, while the vast, flat, and hot jungle and savannah areas east of the Andes—which cover two-thirds of the country—are scarcely inhabited. Differences in altitude and other climatological factors have created contrasting worlds that range from perpetually snow-capped peaks in the Andes through the barren plateau of the Altiplano and the dense rain forests of the Yungas valleys to the hot and thorny desert in the south-east.

The people and culture are equally diverse: more than half the population speak indigenous languages rather than Spanish, the official language. About 65 percent of the population are Aymaras and Quechuas

who worship, dress, and live much as their ancestors did in pre-Columbian times. The largest group is the Quechuas, still occupying most of the territory ruled by the Incas up to the early-sixteenth century. The second largest group is the Aymaras, whose language and way of life differ markedly from those of the Quechuas. In addition, there are several other Indian tribes scattered over other parts of the country, some of which are still virtually unstudied. In the cities, there is a relatively small educated group of *criollos* (South Americans of Spanish descent), who dominate the political, commercial, and cultural life of the country. Between these two groups—the Indians and the *criollos*—there is a substantial stratum, of about 35 percent, of Spanish-speaking *Mestizos*, whose way of life is adapted to the mainstream of Western culture. They tend more and more to live in the cities. Their population growth rate is 3.3 percent. Constitutionally the capital is Sucre with 80,000 inhabitants. The acting capital is La Paz, which with 881,000 inhabitants is the largest and most important city.

The highland area of what is now Bolivia was conquered by the Spaniards in the middle of the sixteenth century and called Upper Perú (*Alto Perú*). In 1825, Bolivia achieved independence, but most of the people did not gain significant independence or democracy until the middle of the twentieth century. Although nearly 30 successive constitutions included eloquent statements about the rights of the individual, the administrative realities have remained extremely centralized and dominated by small groups. Bolivia has a turbulent political history with frequent coups, but there is only a tiny urban elite whose members take turns in holding the reins of power. The vast majority of the people have remained unaffected by political events, are uneducated, poor, and often unaware even of who their president is. The only real revolution, one which brought changes in economic, political, and social structures, was that of 1952 carried out by the Nationalist Revolutionary Movement (MNR). It irreversibly changed the traditional distribution of wealth and power through the nationalization of the mines and agrarian and educational reforms which gave the peasants land and a new sense of awareness and participation.

None the less most of the people (49 percent) are still engaged in primitive agriculture, which contributes 18 percent of the Gross National Product (GNP). A few mines produce most of the exportable wealth—mainly tin and some remaining silver—but the vast mineral resources of the country are very costly to exploit. In 1984, mining contributed 6 percent of the GNP and employed 4 percent of the working population. In 1974 mining contributed 12 percent of the GNP, thus there has been a substantial decrease in production. Industry employs 8.6 percent and contributes 31.6 percent of the GNP, while services reached 53.6 percent of the GNP, employing 12 percent of the working population.

1. Goals of the Educational System

The first legal basis for the national educational system dates from December, 1825, when the first president of the nation, Simón Bolívar (1783–1830), laid down the ideological principles which were to govern education. This document states that the first obligation of the government is to provide uniform and general education for all the people and to guarantee equality of opportunities—goals which have still not been attained.

Several other laws gradually defined the aims and structure of the educational system (in 1827, 1845, 1846, 1872, 1905, 1909, 1917, 1930, 1956, 1968, and 1973). The most important ones were the law of 1845, which organized the system of secondary education; the law of 1872, which created a private and a state system of education, the latter being free and obligatory; the law of 1909, which regulated teacher training and created the training institutions for urban teachers in Sucre and La Paz and those for rural teachers in Umala, Colomi,

and Puna; the law of 1930, which gave autonomy to the university; the law of 1956, which belongs to the achievements of the 1952 revolution and hence affects especially the rural system of education; and, finally, the current educational reform dictated by the laws of 1968, which changed the general structure of the educational system, and of 1973, which revised the content of education and introduced new curricula.

The specific goals in preschool education are the development of psychomotor abilities, the acquisition of sound health habits, language development, social learning, and musical education. In a representative survey carried out in 1975, most of the headmasters and teachers at this level stated that the goals had been only partially achieved. The most important complaint was about the lack of health education, since there are no medical centres. Child mortality is still very high in Bolivia: every second child dies before reaching the age of 5.

The goals for primary education were stated in Chapter I of the 1956 Code of Bolivian Education; here again the national survey demonstrated that 56 percent of teachers thought the Code's aims had not been attained because of the lack of institutional help and an overloaded curriculum covering 14 different subjects. Consequently, the law of 1973 reduced the curriculum to four main subjects—language, mathematics, natural sciences, and social sciences—and four complementary disciplines—music, physical education, religion, and crafts.

The goals for secondary schools are, according to the laws of 1968 and 1973, to develop a scientific and philosophical way of thinking, to prepare for university education, and to offer diversified studies for vocational education.

2. General Structure and Size of the Educational Effort

The educational system is divided into primary, secondary, and higher levels. Although the system was altered by the laws of 1968/73, many schools still operate according to the 1956 Code. Figure 1 shows both systems.

The primary level includes three cycles: prebasic, basic, and intermediate. The secondary-school system includes general and vocational education and the higher level includes teacher training and university. In addition, the system differentiates between urban and rural education, as well as between private and public education.

Preschool education is provided for children from three to six years of age in the prebasic cycle. The structure and organization of preschool education varies according to the financing institution, which may be the Ministry for Social Affairs, the mining corporation COMIBOL (*Corporación Minera Boliviana*), or others.

Several types of primary education are provided. According to the educational reform of 1968–73, this

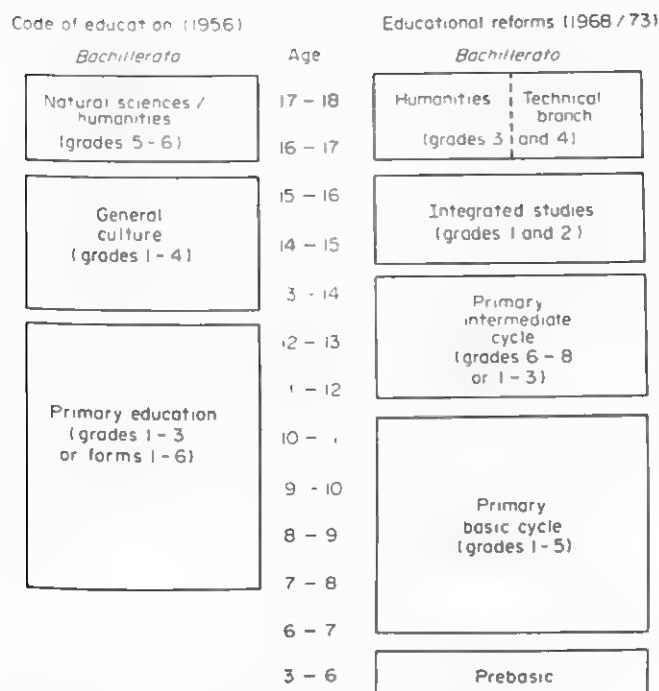


Figure 1
Structure of the old and new educational systems

level should cover eight grades: five in the basic cycle and three in the intermediate one. However, many schools still follow the legislation of 1956, which provides for six school years.

Rural education is organized along the lines of the nuclear system introduced by Elizardo Pérez as early as 1931 at the school of Warizata. Ideally, a central school within a community should provide complete primary education as stated in the educational reform of 1968-73, but in reality most schools still work according to the old scheme, in which different types of "sectional" schools depend on this central entity: type A is the complete school covering the whole basic cycle of five

grades with at least two teachers; type B is incomplete and works with a single teacher; and type C does not go beyond the first two grades of schooling and has only one teacher, who is paid by the parents of the children rather than by the state.

The new structure of secondary education differs from the old 6:6 system, since primary education has been reorganized into a 5:3 system (basic:intermediate). Secondary education now covers only four grades subdivided into two cycles, so that the new system shows a 5:3:4 scheme. The first two years of secondary education offer an integrated programme in several subjects for all pupils, while the second cycle differentiates between the study of humanities on the one hand and a technical branch with several alternatives on the other: industrial, commercial, agricultural, and artistic education (see Fig. 1). According to the survey of 1975, this pattern was followed by 58 percent of secondary schools. The *bachillerato* is the school-leaving certificate in both systems.

The University of Bolivia, consisting of eight state universities and one private university, is the only institution to grant higher education degrees in Bolivia. The basic requirements for entry are the diploma *bachillerato*, a pass in an entrance examination, and a health certificate.

In addition to the university there are a number of private and state institutions under the authority of the Ministry of Education and Culture which offer higher education below degree level. Among these institutions are teacher-training schools, schools of fine arts, commercial institutes, and a technical institute. The duration and curricula of these institutions are varied and have not been standardized. Most of the nonuniversity institutions are private and the tuition fee is much higher than the nominal rate charged at the university.

As far as the size of the educational effort is concerned, one has to rely on the data of 1974, all others being merely estimates. The school-aged population in this year amounted to 2,949,834, but only a third attended school (see Table 1).

Although there was a significant increase in enrolment in 1974 compared with preceding years, especially in

Table 1
School population, student enrolment, teaching staff, and per student cost for different levels of education 1974

Level	Population		Enrolment		Teaching staff	Cost per student (\$B)
	No.	%	No.	%		
Preschool (4-5 years)	289,471	10	28,081	13	978	1,195.00
Basic (6-11 years)	876,350	29	648,963	74	2,553	1,270.60
Intermediate (12-15 years)	597,515	21	156,350	26	6,531	1,239.80
Secondary (16-20 years)	697,847	24	121,287	17	5,645	2,175.30
Higher (21-25 years)	488,651	17	13,665	2.7	806	4,159.10

the primary level—compared with 1970, the participation rate rose by 5.75 percent in the basic cycle and by 5.48 percent in the intermediate cycle—absenteeism is still very high. At the preschool level, 87 percent of children do not attend. Nearly a quarter of the relevant age group does not go to primary school, and only 26 percent of children reach the higher grades of the intermediate cycle. (However, there has been a remarkable growth at this level in recent years. The number of schools increased from 1,806 in 1975 to 3,359 in 1981.) At the secondary level, 82 percent of children are outside the system and less than 3 percent receive higher level education. There is an inequality of chances between the urban and the rural systems and between males and females: 44 percent of the children in primary schools are female, but only 27 percent go on to secondary education.

The quality of the educational process depends largely on the quality of the teaching staff. The enormous educational demand leads to shortcomings in this respect. If the years 1970 and 1974 are taken as reference points, the number of untrained personnel has increased considerably in absolute and in relative terms. In preschool education, the proportion of untrained teachers rose from 9.3 to 15.2 percent; in the urban system of primary education, it nearly doubled, from 16.8 to 31.1 percent, and in the rural system the proportion rose from 14.8 to 22.8 percent. Teachers with a "title for long service" are not included in these figures; if these too are taken into account, 40 percent of teachers in the primary system are unqualified, lacking not only specific pedagogical training but also general culture. The number of teachers was 25,000 in 1970. (It has since increased to 45,000 in 1981.)

3. Administrative Structure and Finance

About 82 percent of schools are operated and financed by the government. The private-school system covers 10 percent of primary schools and 30 percent of secondary schools and institutions of higher education.

Nearly a third of general government expenditure is assigned to the Ministry of Education (30.6 percent in 1974). This extremely high percentage (expenditures in the private sector are not included in this budget) shows that priority is given to education; on the other hand, it makes clear that government expenditure on education cannot be increased. In fact, the expenditure on education has had to decrease as a result of the increase in external debts. In 1983, \$B43.9 billion was spent on education from a national budget of \$B301.1 billion (\$B171.76 billion was spent to service the public debt). As most of the allocation is required to cover personnel costs, only a relatively small amount is left for investment in school buildings, teaching materials, etc. Furthermore, the bulk of the money is spent in urban areas (70.5 percent) so that the problems of the rural communities remain unsolved.

4. Major Problems

Expenditure on education has reached a limit which cannot be exceeded in the near future. Even if every effort is made to increase enrolment by 5 percent per year, the annual population growth of 2.6 percent makes it difficult to catch up with educational demand. The estimated total enrolment for 1975 was 1,097,000 students, that is, 36.22 percent of the school-age population. (The estimates for 1981 show an increase to 40 percent.) This means that 63.7 percent do not attend school. The figures differ, of course, according to the educational level, but generally speaking the school-leaving age is very low. This is due to the low productivity of the system, especially in rural areas, in which, out of all children who started school in 1969, only 15 percent reached the final grade of the basic cycle in 1973. The urban system, which includes the private educational sector, is, in comparison, much more efficient; the dropout rate was 36.7 percent. In the intermediate cycle, dropout and repetition rates together amounted to 22 percent in urban and 73 percent in rural areas. The same tendency can be observed at the secondary-school level. Here again, the private system accounts for relatively high productivity in comparison with the government-operated vocational branch, where dropout reaches nearly 80 percent. The reason for this phenomenon lies in the social stratification of the population—children of higher social classes go to private schools, which are much better funded and employ only qualified teachers.

The crisis of the state system becomes more evident if we compare the above figures with earlier data; the dropout rate has increased rather than diminished. In the intermediate cycle, for instance, the dropout rate rose from 28.4 percent in the period 1969–71, to 39.1 percent in the period 1970–72, and again to 42.2 percent in the next period. In rural areas 53.29 percent of the population were illiterate. The figures for women were higher. In rural areas 68.59 percent of women were illiterate. Even in the cities 48.6 percent of women did not read or write. These figures show that the school does not really satisfy the expectations of those who enter the educational system and that the problem is not only quantitative but also qualitative.

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Botswana

L. A. Lockhart

Botswana is in southern Africa, bordered by South Africa, Zimbabwe, Namibia, and Zambia. Its area is approximately 582,000 square kilometres (150,777 square miles) (about the size of France), of which most is semiarid desert. The population of about one million is mostly concentrated near the line of rail and road in the more fertile eastern side of the country, where most of the educational institutions have been located. The annual population growth rate is estimated at 3.2 percent. Botswana is culturally homogeneous; about 80 percent of the population are Setswana-speaking Bantu. Cattle-ownership predominates in the traditional sector. Fertile land for arable agriculture is scarce and returns are low, so many Batswana seek employment in neighbouring countries, particularly in mining and domestic service.

The modern sector of the economy, dominated by the public service and a rapidly growing minerals subsector, offers relatively high incomes for the educated, but employment opportunities are limited. Hence, Botswana exhibits in common with other Third World countries a dual economy which has a profound influence on the educational system.

The first primary schools in Bechuanaland (Botswana's name before independence in 1966) were established from 1840 onwards by the London Missionary Society and by other Christian missions. In 1885, the country became a British protectorate, but the development of education was neglected by the colonial regime since, among other reasons, it was anticipated that the protectorate would ultimately become part of South Africa. The small numbers of Batswana selected for postprimary education mostly attended institutions in South Africa until the 1950s. The first secondary school in Botswana was established (by a mission) in 1944, the first senior-secondary classes were opened in 1955, and the first government secondary school preceded independence by only one year. At independence, in 1966, there were no facilities for university education, and there was only one small government multipurpose postschool training institution.

Present personnel shortages can be attributed in no small measure to this history of government neglect. However, one beneficial consequence was the development of a tradition of community involvement and financing of education, which led among other things to the establishment before independence of four tribal secondary schools.

1. Educational Goals

Botswana's educational system seeks to promote the four national principles of democracy, development, self-reliance, and unity, which in combination embody the national philosophy of *Kagisano*, or social harmony

(Botswana 1977). More specifically, at the beginning of the 1980s, the national development plan for 1979–85 set the following objectives for education (Botswana 1980):

- (a) to increase educational opportunities and to reduce inequalities in educational opportunities;
- (b) to contribute to a balanced economic development by meeting personnel requirements, with particular emphasis on the needs of rural development and employment generation;
- (c) to promote desirable personal qualities and to encourage the full development of individual talents; and
- (d) to extend the role of schools and colleges in the community, and vice versa.

2. Structure and Size of the Educational Effort

At independence, the government inherited a seven-year primary education system consisting of about 250 schools enrolling some 71,500 pupils (corresponding, on the basis of contemporary demographic data, to about 70 percent of the official primary-school age group). There was an impressive quantitative expansion of the system to about 171,900 pupils in over 400 schools in 1980. An unusual feature of the pattern of enrolments (which persists at junior-secondary level) has been the greater number of girls than boys, attributable in part to the employment of boys for cattle herding. There is little formal preschool education in Botswana.

Secondary education expanded from about 1,500 pupils at 9 schools in 1966 to about 18,300 pupils at 38 schools (22 government and aided, 16 unaided) in 1980. There is a three-year junior-secondary course followed by selection for a two-year senior-secondary course.

There is a "high cost" school sector consisting of a small number of English-medium primary schools and a private secondary school which offers, in addition to the prescribed junior- and senior-secondary courses, the only School Certificate Advanced-level courses available in Botswana.

At independence, only about 70 Batswana were enrolled in tertiary-level courses, all outside Botswana. However, the regional University of Basutoland, Bechuanaland, and Swaziland had been established in 1964, becoming the University of Botswana, Lesotho, and Swaziland when the three countries simultaneously attained independence in 1966. It was originally based at Roma (Lesotho) but from 1971 there was a presence in Gaborone (Botswana) and Mbabane (Swaziland). Following the withdrawal of Lesotho, the other two countries set up in 1975 the University of Botswana

and Swaziland. The university institutions of the two countries became autonomous in 1982, though co-operation between them still continues. By 1980–81, University College, Botswana, had four faculties (humanities, science, economics and social studies, and education) and about 930 students of whom about 765 were citizens of Botswana. There is also a pre-entry science course. In 1980–81, about 200 university-level students were studying outside Botswana: law, commerce, and agriculture students mainly in Swaziland, and others, particularly in science-based subjects, in many other countries.

Technical and vocational education and training are provided at the Botswana Polytechnic (formerly the National Centre for Vocational Training), at government and parastatal training institutions (including the Institute of Development Management, the Botswana Institute of Administration and Commerce, the Botswana Agricultural College, the Automotive Trades Training School, and the National Health Institute hospitals), and by the private sector and the brigades. Substantial numbers of Botswana study abroad to obtain more specialist technical qualifications.

The Botswana brigades, founded in the mid-1960s as an alternative to formal secondary education, originally offered vocational training which through its close association with the production process was to be largely self-financing. Subsequently many brigades have emphasized activities which have not included formal vocational training: production for the market and a range of community service projects. By 1982, there were about 18 brigades centres, located mainly in rural and peri-urban areas, each centre being responsible for several individual brigades. Numbers of full-time trainees reached about 1,000 in the 1970s, but have since fallen. Brigades provide employment for several hundred Botswana and support services for many others. The movement is largely autonomous, but it is subsidized by the government and by external donors. The achievements of the movement in training, employment generation, and rural development have been impressive, though recently some of the centres, particularly the larger ones, have experienced serious managerial and financial problems.

Botswana has an active nonformal education sector. The Department of Adult Education at the University of Botswana and Swaziland takes particular responsibility for training adult educators and for research, evaluation, and university extension. The Department of Nonformal Education in the Ministry of Education oversees most field activities. It participates in the extension activities of other government departments and runs various programmes of its own, including correspondence courses, programmes for women and children, and adult literacy programmes. It seeks to respond to needs identified at district and village levels, and a notable feature of its programmes has been the degree of local participation in decision making and implementation. Among its activities, the national literacy cam-

paign aims to impart basic skills to about 250,000 adults during the 1979–85 national development plan period.

So far as the formal educational system is concerned, on the basis of 1980 data, a Botswana child has about a 90 percent chance of entering primary school; a primary-school entrant has a 75 percent chance of completing the cycle and a completer has a 40 percent chance of gaining a junior-secondary-school place. A junior-secondary-school entrant has an 85 percent chance of completing the course, and a completer has a 30 percent chance of a senior-secondary-school place. A senior-secondary-school entrant has a 95 percent chance of completing, and a completer has a 30 percent chance of a university place at degree or diploma level. Available data suggest that the literacy rate in Botswana may be in the region of 30 to 40 percent.

3. Administration and Finance

Authority for education is vested in the minister of education, who has responsibility for most aspects of the primary, secondary, teacher-training, technical, and nonformal sectors. District and town councils are responsible for primary-school buildings and materials, for which they receive financial and technical assistance through the Ministry of Local Government and Lands. Individual ministries and parastatals are responsible for their own training programmes. The university is semiautonomous under a council in each participating country (while the regional arrangements last) and a senate. The minister of education has residual powers.

It is estimated that education and training currently absorb about 5 percent of Botswana's gross domestic product, while central government recurrent expenditure on education and training was 27 percent of the total recurrent expenditure of all operating ministries in 1980–81. Primary-education tuition fees were substantially reduced in 1973 and abolished in 1980. Secondary-school tuition, boarding, book, and other fees are charged, but part remission of fees is available through bursaries for those in need. Teacher training is free and trainees receive an allowance. Most postschool education and training, including university courses, are government financed with bursaries, and recipients of bursaries are bonded to the government service for a period after completion of studies. For 1980–81, the allocated to the Ministry of Education's recurrent budget education, 48 percent; secondary education, 27 percent; University College, Botswana, 15 percent; technical and vocational education, 4 percent; primary-teacher education, 5 percent; and nonformal education, 1 percent. Per student recurrent expenditure by government was estimated for 1980–81 as: primary, P123; junior secondary, P620; senior secondary, P820; primary teacher education, P1,170; Botswana Polytechnic (full-time equivalent), P2,310; and University College, Botswana, P5,385 (P1.00 = US\$1.20).

4. Educational Personnel

Initial training for primary-school teaching is provided through residential two-year courses. Enrolments of trainees increased from 293 students at two colleges at independence in 1966 to 844 students at three colleges in 1980. In 1980, out of a primary-level teaching force of 5,316, there were 1,933 untrained teachers. The training colleges reserve places for untrained teachers and also for applicants from the more remote western districts. An inservice team assists teachers in the classroom. There are a number of teachers' centres, and the Teaching Aids Production Unit produces teaching aids and assists teachers to make their own.

Secondary-level teachers are trained at the University College, Botswana, at diploma and degree levels. Teachers of woodwork and technical drawing are trained at Botswana Polytechnic and teachers of agricultural science and home economics in Swaziland. Out of 603 trained teachers in government and aided schools in 1980, 341 were noncitizens (including the great majority of teachers of mathematics and science). Out of about 220 teachers in private secondary schools in 1980, 100 were untrained nongraduates.

A community-service scheme for form 5 secondary-school leavers was introduced in 1980. It is voluntary but it is to become a requirement in 1986 for those seeking further education and employment. Participants live with families in villages and perform a dual role as part-time primary-school teachers and part-time community-development workers. The aims of the scheme are to promote rural development, to provide an educative experience for the participants and, for as long as shortages of trained teachers persist, to improve the quality of primary-school teaching.

5. Curricula

Primary schools teach a nationally prescribed curriculum which allows limited adaptation to local needs and conditions. The official media of instruction are Setswana to grade 4 and English thereafter. The present policy is to make primary education more practical, but without teaching vocational subjects other than agriculture. There has been automatic annual promotion except for controlled repeating of the final grade. The secondary-school curriculum includes English, Setswana, mathematics, science, history, geography, development studies, agricultural science, home economics, and woodwork with technical drawing; most schools offer a core of compulsory subjects (to include at least one "practical" subject) with options. The brigades provide craft training in a number of trades, predominantly those associated with the construction industry. The Botswana Polytechnic offers training, mainly at advanced craft and technician levels, in mechanical, electrical, and civil engineering fields. The Department of Curriculum Development and Eval-

uation in the Ministry of Education has responsibility for primary- and secondary-education curricula.

6. Examinations and Selection

At the end of the primary-education cycle, pupils sit the Primary School Leaving Examination, a localized examination combining attainment and aptitude tests which are used for certification and selection purposes. Selection is on the basis of merit, though there are minimum quotas of places for schools offering 20 or more candidates. Junior-secondary-school completers sit the Junior Certificate examinations, and senior-secondary completers sit the Cambridge Overseas School Certificate (set in the UK), both of which are subject-based examinations. The University of Botswana and Swaziland conducts its own examinations with external moderation, while those studying technical subjects sit the (London) City and Guilds examinations and local trade tests.

7. Educational Research

Research in education has been conducted mainly within the Faculty of Education at the University of Botswana and Swaziland and also by the Planning Unit of the Ministry of Education and other agencies. Some important research papers were published as an annex to the Report of the National Commission of Education (Botswana 1977). There have been a number of tracer studies of school and brigade leavers.

8. Major Problems and Future Policies

Botswana's educational development since independence has been impressive. However, growing concern that quantitative expansion should be matched by qualitative improvement led to the appointment in 1976 of a National Commission on Education which issued a report in 1977 (Botswana 1977). The problems identified by the commission and in other inquiries included the following:

- (a) the variable quality of education, particularly at the primary level;
- (b) the orientation of the educational system to modern-sector employment;
- (c) shortages of income-earning opportunities to match the aspirations of the educated (long in evidence for primary-school leavers but increasingly affecting junior-secondary leavers);
- (d) severe shortages of skilled personnel, particularly in science, mathematics, and technical fields;
- (e) uneven access to educational opportunities for those living in urban areas, larger villages, and scattered settlements, with severe disadvantages suffered by some minority groups; and

- (f) lack of training capacity in Botswana in many fields, attributable in part to lack of viability of courses for small numbers.

The fifth national development plan, for 1979–85 (Botswana 1980), included proposals designed to begin the implementation of the educational strategy proposed by the commission. Priorities for the plan period are to improve the quality of and access to primary education, to develop technical education to meet the country's needs, and to increase the number of senior-secondary leavers who are well-qualified in mathematics and science. This represents a shift in emphasis from the pre-eminent postindependence concern for secondary-level and university expansion to meet modern-sector personnel requirements. Policies, programmes, and projects include the following:

- (a) for the primary-education sector, curriculum reform including a more practical orientation, a grade 4 national test (with the relaxation of the automatic promotion rule for this grade and greater emphasis on remedial teaching), an improved educational-broadcasting service, a major primary-school construction programme with special provision for small communities, and the abolition of remaining fees;
- (b) for secondary education, using the resources of government and local communities and where possible developing existing private schools, the establishment of a network of low-cost and mainly small day schools as a step towards providing universal access to junior-secondary education;
- (c) for teacher education, two new colleges (one for primary and one for junior-secondary teachers) and

a Primary Education Improvement Project seeking by various means to raise the quality of teaching in primary schools;

- (d) for technical and vocational education and training, a significant increase in training capacity within the government sector and increased support for the brigades movement;
- (e) for the university, a period of consolidation with the establishment of some new courses in applied fields; and
- (f) for nonformal education, an expansion and diversification of activities, with emphasis on literacy training.

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Brazil

E. Bauzer Medeiros

The world's fifth largest country in area, Brazil has been virtually the same size since it gained independence from Portugal in 1822. Stretching from above the equator to below the tropic of Capricorn, it covers nearly half South America, encompassing a range of climates from equatorial to temperate. In the northeast, school attendance is hardly possible during cyclic droughts, while in the north many schools are inaccessible throughout the rainy season.

Population distribution also varies considerably. While in the south and southeast, 59 percent of the total population is concentrated in only 18 percent of the national territory, the north contains 5 percent of the population on 42 percent of the land. Although, by 1980, national demographic density was 14 inhabitants per square kilometer, in the Amazon State it did not

reach 1 inhabitant per square kilometer and in the Rio State it surpassed 260 inhabitants. Population growth also differs greatly from region to region. Over the period from 1970 to 1980, population in the southeast grew five times more than that in the north.

Socioeconomic disparities are likewise striking, whether one compares fertility rates, protein and associated calorie deficiencies, school enrollment ratios, literacy rates, or sanitation. By 1980, per capita income in the center-south was thrice that of the other regions. When the most and the least developed states were compared, per capita income showed a ninefold difference.

As to culture, it varies so much that a true mosaic is to be found. Not infrequently, a patriarchal mode of living coexists in close proximity with postindustrialism.

Schools, obviously, reflect such distinct values. Contrasts are so sharp that writers describe *two Brazils* and caution against making nationwide reports.

But the educational system has to cope with such interregional differences, further aggravated by great distances which involve transportation of teachers, pupils, and materials. Moreover, it must serve a fast-growing population, which by 1982 totaled 126 million, 40 percent of whom were under age 15 and 50 percent under 20. Although, since the 1960s, demographic growth has been declining, the shortage of teachers and classrooms has been chronic. Population increase decreased from an average annual peak of 3.0 percent in the 1950s to an average 2.5 increment during the 1970s and 1980s. Factors accounting for this decrease include: rapid urbanization (from 1940 to 1980, urban population expanded by 31 to 68 percent); increasing schooling of women (in 1980, both literacy rates and the proportion of residents with up to eight years of schooling were similar for men and women and in urban and rural areas); the rising participation of women in the labor force (their share in the economically active population more than doubled over the period 1950–80); a decrease in the church's authority (modern birth-control methods have been openly discussed—and disseminated—though 93 percent of the residents declare Roman Catholic affiliation); some private family-planning services (public welfare agencies are deferring implementation of family planning); the farreaching influence of modern transportation (notably trucks, able to traverse rough roads to take new commodities—and ideas—to the remotest villages); the wide penetration of the mass media (by 1980, 1,067 radio and 95 television stations covered the whole country, portable radio and television receivers being found everywhere, from far-away settlements to metropolises and even in shanty towns). To sum up, it could be said that nonformal education has been fostering social change, since it propagates new beliefs and behavior patterns but mostly spreads value systems in which large families have little place and women follow careers.

Brazilian society has been marked by a tradition of tolerance, an unhurried pace of life, indifference to ethnic barriers, and a measure of individualism. Bearing witness to its openness are its history of peaceful negotiation of internal and external dissent, and its remarkable integration of people of all origins and colors. This miscegenation began as the first Portuguese settlers interbred with aboriginals, and later with Negroes brought from Africa as slaves. In the nineteenth century, it widened to embrace European immigrants who came flocking to Brazil. Most came from Portugal, Italy, Spain, and Germany and helped to reconstruct an economy suddenly deprived of slave labor (abolition having been passed by law). They promoted trade and initiated manufacturing, giving birth to the cities—and to the middle class. Until then, a semifeudal structure of masters and slaves had characterized the country's agrarian society.

But even in the patriarchal extended family, with its numerous aggregates, social mobility had existed. Marriage, wealth, *compadrio* (help from influential godparents), and schooling were effective paths of social ascent. A college diploma opened doors, irrespective of origin or color. A bachelor's degree in law, in particular, granted access to the highest social, administrative, and political spheres. Even nowadays schooling favors social mobility: secondary education may lead to middle-class membership; higher education paves the way to inclusion in the upper classes. For those unable to afford postprimary education, military schools and seminaries continue to hold promise of vertical mobility. Besides being free, they have prestige and offer second- and third-level courses.

A flexible social structure and the ease of displacement encourage horizontal mobility. Though government controls internal migration and tries to curb rural exodus, by 1980 about 40 percent of inhabitants lived away from their home towns, the 9 Metropolitan Regions containing 29 percent of the total population. While unqualified workers, the majority of whom are illiterates, swarm into cities (preferring the largest ones), qualified professionals transfer to hold key positions in developing areas or in territories opened up by westward expanding frontiers.

A single language (Portuguese), a secular state that supports religious freedom, and practically a single religion facilitate interpersonal relations. Social distances derive more from economic or cultural factors than from other sources. And both these factors are associated with education. Salary and education have been found to correlate positively and significantly in all strata. Of workers earning the minimum salary in 1980, above 80 percent had at most four years of schooling, whereas, of those earning 10 times more or over, 70 percent had at least nine years of schooling.

The country's economic structure underwent great changes from 1940 to 1980. Until 1940, agriculture and industry were advancing at similar rates. But prompted by restrictions on imports in the two world wars and increased demand for exports, industrialization accelerated. From 1949 to 1981, the contributions of the three economic sectors to the national product altered greatly. The share of the primary sector decreased from 26 to 13 percent, that of the secondary sector rose from 23 to 32 percent, and that of the tertiary grew from 49 to 56 percent. Meanwhile, the gross national product (GNP) expanded at an average annual rate of 6.4 percent. In the first half of the 1980s, however, factors such as chronic inflation (reaching three digits), the energy crisis, and mounting foreign debt impaired the economy, per capita income equaling US\$1,870 in 1980, and GNP showing negative growth. Nevertheless, exports surpassed imports.

During its 163 years of independence, 93 of them under a republican regime, Brazil has had six constitutions and many amendments. Autocratic and democratic regimes alternated, but overall the latter

prevailed. A federative republic, Brazil comprises 23 states, 3 territories, and a federal district. States are divided into municipalities (4,000 in number) which differ widely in size (from 22 to 280,000 square kilometers) and in demographic density (from 8 to 11,700 inhabitants per square kilometer).

1. Goals of the Educational System

"Self-realization, conscious citizenship, and vocational qualification" are the goals of the system, which stands on "the principles of national unity, freedom, and human solidarity." Regarding education as "a universal right and duty of the state," it relies on the combined efforts of family and schools and other social groups.

Work-oriented education is rather recent, since up to the 1930s school was seen as a privilege and was therefore selective. But as industrialization advanced, and the rural aristocracy declined, school became an agent for personal development and social change. The traditional literary and humanistic studies cultivated since colonial times in Jesuit schools, which for centuries dominated Brazilian education, began to lose ground to vocational studies.

2. Structure and Size of the Educational Effort

The educational system comprises regular, supplementary, and special education. Parallel with these subsystems are other national subsystems: the military and the system of personnel qualification (maintained by the Trade and Industry National Confederations). Student transfer between systems only requires adjustment of individual curricula.

The regular system comprises: preschool (maternal classes for ages 2 to 3 and kindergarten for ages 4 to 6); compulsory first level (eight grades, ages 7 to 14); second level (three grades, ages 15 to 18); third level (basic and specialized cycles, taking 6 to 12 semesters); and fourth level (graduate courses). Secondary schools have different tracks: academic (where the majority are enrolled), normal (for teachers training), commercial (business oriented), industrial (with a relatively small enrollment), and agricultural (with the lowest enrollment). The certification of all has equal legal standing, student transfer depending upon curriculum adaptation.

Of total enrollment in 1980, preschool had 3 percent, first level 82 percent, second level 10 percent, and third level 5 percent. Enrollment ratios in 1980 were: 9 percent for ages 5 to 6; 72 percent for ages 7 to 9; 80 percent for ages 10 to 14; 45 percent for ages 15 to 19; and 19 percent for ages 20 to 24. Regional ratios differ in all age groups, but mostly on preschool. Overall enrollment ratios ranged from 52 percent in the north-east to 66 percent in the Federal District, the national ratio being 55 percent.

Enrollment in public schools in 1980 amounted to the following percentages of total enrollment per level:

preschool 53 percent (half in federal units); first level 88 percent (above half in state schools); second level 54 percent (nearly half in state schools); and third level 30 percent (two-thirds in federal institutions). These ratios would have been even larger had government scholarships to attend private schools been computed.

Failure rates are high. In 1980, repeaters represented 19 percent of first-level enrollments and 7 percent of second level. Retention is weak, major dropout points appearing between levels and, crucially, between grades 1 and 2 (up to 28 percent in 1982). The 1968 cohort illustrates the situation. For every 100 of its first graders, 46 reached grade 2, 37 grade 3, 30 grade 4, 29 grade 5, 22 grade 6, 20 grade 7, and 17 grade 8. Verbose instruction, malnutrition, and economic difficulties contribute to such results (14 percent of those aged 10 to 14 and 48 percent of those aged 15 to 19 were gainfully employed by 1980). Only 56 of every 1,000 first graders finished the third level in the 1970s, a condition little changed in the 1980s.

As Fig. 1 shows, from 1940 to 1980, enrollment multiplied by 34 in preschool, 7 at the first level, 29 at the second, and 75 at the third. Third-level expansion might be explained by long-term demand, since the first universities date from the 1930s (when separate colleges began joining together). More important, however, were the national prospects for upgrading leadership which were implemented by the Ministry of Education as part of socioeconomic development programs. The

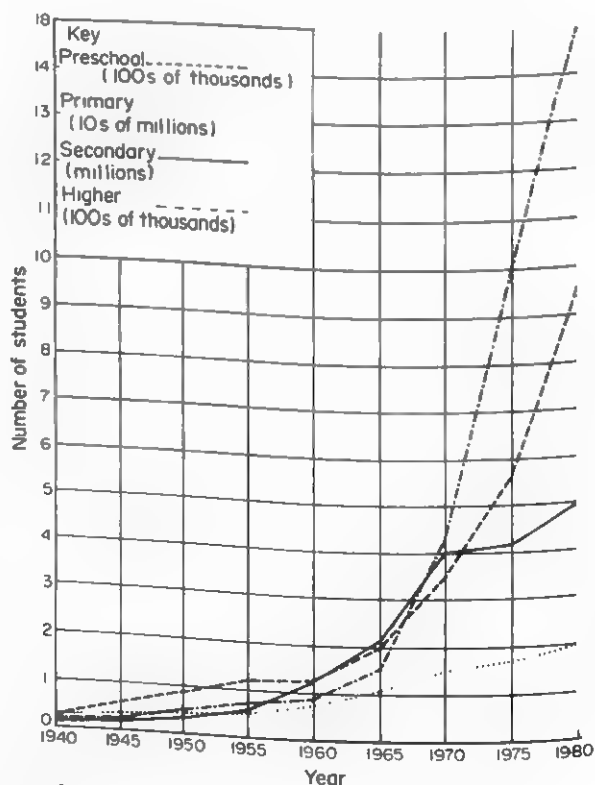


Figure 1
School enrollment 1940-80

Ministry also heavily supported preschool education in an effort to reduce grade 1 failure.

Supplementary education fills the first- and second-level gaps in schooling for those aged 14 and over (mostly through night courses). Emphasizing vocational training, it encourages individualized study, requiring only that the first level be completed within five academic years and the second level in a minimum of three years. Twice a year public education centers hold "sufficiency examinations," which can be taken in parts. Successful completion of each level entitles a candidate to certification and transfer to another subsystem. Special education, still incipient, is for those not adjusting to regular studies, either because they are handicapped or highly gifted.

Outstanding nonformal education programs include: first- and second-level sequenced courses, offered by public and private radio and television networks with booklets sold at newstands at nominal prices; university extension projects, which regularly send interdisciplinary teams of students to do community work at their "advanced campuses" in backward areas; literacy courses supplied by the Brazilian Literacy Movement (created in 1960 and in 1985 transformed into the Youth and Adult Education Foundation); open university courses started in 1982 by Brasilia University; and since 1946, lifelong education and leisure skills courses conducted by the social services of both the Trade and Industry National Confederations.

3. Administration

Despite interregional disparities, administration of education has traditionally been centralized. States and municipalities organize and administer their own systems within the framework laid down by legislation and by the Federal and State education councils. The Ministry of Education and the states or municipal Secretaries supervise compliance with legally detailed requirements. Public and private schools at all levels fall under their supervision. The federal government organizes and administers the Territories Systems, as well as the federal system, the goal of which is "to supplement state and municipality systems within the strict limits of local deficiencies."

Decentralizing initiatives, attempted since 1834, have been ineffectual, perhaps due to paternalistic attitudes inherited from colonial times or to a tradition of central control prevalent in the Jesuit system which educated generations of the dominant classes. Another reason could be the desire to foster national unity within a vast territory.

Since the 1946 Constitution prescribed only that "national congress should define the directives and bases of education," a rather flexible law was passed in 1961. But the 1971 education reform law itemized national requirements for all levels, particularly for the first and second. Nevertheless, it also recommended

"gradual transfer of responsibility of education to local governments, beginning with primary education."

4. Finance

Federal government accumulates the funds for education, chiefly from taxation revenue, income tax deductions, lottery, and compulsory private contributions. Such resources are then allocated by the Ministry of Education both to states and federal programs (such as upgrading higher education teaching corps or improving nutrition through free school meals).

Substantial funds come from the "educational salary" instituted in 1964, whereby all private concerns pay monthly deposits to the National Education Fund. These are equivalent to 2 percent of their employees' pay. The Ministry of Education then distributes such funds among the states, earmarking them for scholarships for first-level pupils and for school equipment.

Primary education was declared compulsory by the 1946 Constitution (so that the consequent financial requirement would be met) and the same law specified the amounts to be contributed by the federation, states, and municipalities, in terms of percentages for education of taxation revenues. A subsequent constitution and its amendments, however, restricted such specifications in the 1970s to municipalities, demanding that they allocate 20 percent of their taxation revenue and of their quota in the Federal Participation Fund for "education and culture," not fixing quotas for the federation and the states. But in 1985 an Amendment set them at 13 percent for the federation.

From 1965 to 1976, national expenditure on education, both current and capital, averaged 2.6 percent of GNP (rising to 3.8 percent in 1981) or 13.5 percent of government expenditure.

5. Supply of Personnel

By 1982, the country's 1.27 million teachers were distributed as follows: preschool 6 percent; first level 72 percent; second level 16 percent; and third level 6 percent. Second- and third-level teachers often work part time in more than one school.

Primary teachers, 99 percent of whom are female, are trained in normal schools (in three-year secondary level courses). Secondary teachers are trained in four-year university licensing courses. Education specialists (planners, administrators, supervisors, guidance counselors, and pedagogical inspectors) are likewise trained in universities. Only registered personnel may work in schools: primary teachers register with state or local education Secretaries and all others with the Ministry of Education.

Where teacher shortage is extreme, lay instructors are accepted for grades 1 to 4, provided they have 8 years of schooling. Radio and television courses (with workbooks) offer them guidance, while the regular system provides "additional studies" to those willing to

teach in grades 5 to 8. Lack of secondary teachers is alleviated through two-year "short licensing" college courses or even through "sufficiency" examinations, open to secondary-school graduates who have completed "additional studies." In larger cities, upgrading intensive short courses are held fairly frequently.

6. Curriculum

First-level schools offer "fundamental education," second-level schools are encouraged to stress "vocational qualifications," third-level institutions "develop sciences, literature and arts, train professionals, and conduct research." The Federal Council of Education determines nationwide "core curricula" for first- and second-level schools and also the general structure of third-level courses. State councils guide schools in choosing specialized subjects of local interest which they add to the core subjects in order to meet the requirements of a "full curriculum." This "specialized" part of the curriculum begins in grade 7 and progressively increases in the following grades. It is usually oriented towards vocational training.

7. Examinations, Promotion, and Certification

The 1971 Education Law requires that evaluation in Level 1 and 2 "be both quantitative and qualitative, the latter prevailing over the first." Promotions are decided by teachers, on the basis of school statutes (approved by the state council) and of student performance. Federal legislation prescribes a minimum attendance rate, the length of school terms, certification requirements, and remedial study periods to be offered to underachievers.

Entrance examinations to the 47 public universities and 218 higher schools are most competitive, since admittance is limited and fees nominal. At all levels, essays and objective questions make up the examinations; almost no standardized tests are used.

8. Educational Research

Systematic educational research commenced in the 1930s, promoted by a few state agencies and by the National Institute for Education Studies and Research (INEP) which was created within the Ministry of Education. Since then, the INEP has been chief coordinator of educational research in Brazil. Since the 1930s, cyclical dominance of core themes has marked research. Up to the early 1950s, the "new school" vogue instigated psychopedagogical studies conducted within classrooms. In the next decade, researchers left the classrooms to probe wider sociological problems. Throughout the 1960s, as national development plans stressed human capital, economic issues prevailed. In the 1970s, small individual studies, mostly surveys, preponderated as graduate courses (instituted in 1965)

expanded. Investigations were then usually associated with requirements for master's and doctor's degrees.

Illiteracy, high failure, and dropout rates at the first level, notably in grade 1, and consistently poor performance in college entrance examinations are recurring themes for research. Current major investigations focus on primary education in rural and depressed urban areas, the secondary-level training of technicians, and mastery of the national language.

Chief financing sources for educational research are the Ministry of Education and Culture, the INEP, and the National Financing Agency for Studies and Projects (the Planning Ministry). Among private research foundations in the country, only three display strong commitment to education.

9. Major Problems

Urgent problems under attack in the 1980s are the high illiteracy rate (24 percent of those aged 15 or more in 1978), the shortage of teachers and of classrooms for a fast-expanding population, high failure rates at Level 1, the relative inefficiency of schools in rural and depressed urban areas (where malnutrition and substandard living conditions hinder learning), schools' detachment from local needs, the inability of rural education to improve local life (already depleted of human resources because people continue to flock to the cities), provision of "basic education" to all between the ages of 7 and 14, and greater autonomy for universities.

Measures initiated to alleviate such difficulties include: the provision of radio and television educational programs geared to local needs, mostly for mother-infant groups, lay teachers, and preschoolers (in urban areas, reception rooms with a student monitor are beginning to be provided); less rigidity in curricula so that they adapt more to regional needs; free school meals for *all* elementary-school pupils and their siblings (with already visible effects on school attendance); free school materials (particularly books) for deprived children; and special remedial programs for early prevention of school failures in Levels 1 and 2.

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Brunei Darussalam

C. T. Stege

Brunei is a small, oil-rich Islamic sultanate which is able to provide free universal education and health services to all citizens. Located on the island of Kalimantan (formerly Borneo), Brunei is bordered by the two east Malaysian states of Sarawak and Sabah. These areas were formerly British colonies, with Brunei gaining internal independence in 1963 and Sarawak and Sabah becoming part of the Malaysian Federation. This tiny nation-state, with an area of 5,765 square kilometers (2,226 square miles) and a sparse population of 212,840, attained complete independence in 1983.

The aims of the Brunei educational system were defined in the report of the Education Council in 1976:

- (a) To make Malay the main medium of instruction in national primary and secondary schools.
- (b) To raise the standard of the usage of English in primary and secondary schools.
- (c) To provide a continuous education for all Brunei citizens for a period of 9 years: 6 years in primary schools and 3 years in lower-secondary schools.
- (d) To ensure, by the provision of syllabi of common content, that the standards of education are complementary in all schools.
- (e) To make secondary education accessible to all on the basis of their needs and abilities.
- (f) To place more emphasis on religious tuition (Islam) in line with the requirements of the constitution.
- (g) To provide all Brunei children with every possible opportunity to make themselves useful in the development of the country in order to meet the needs of this country so that all the needs of the country would be fulfilled by Brunei people themselves.
- (h) To promote by means of the above, a national identity upon which a sense of loyalty to Brunei rests, as well as generating the necessary efficiency and flexibility in the education system to meet the development needs of the country.

1. Structure and Size of the Educational System

Present-day Brunei has retained a school system similar in structure to the United Kingdom school system. As of 1978, there were 157 six-year primary schools with an enrollment of 33,053. The secondary level is divided into lower secondary (three years) and upper secondary (two years). There are 27 secondary schools, including some sixth-form centers (postsecondary) with an enrollment in 1979 of 15,571. Also at the postsecondary level are two teacher-training institutions, enrolling 533 in 1978, and three vocational schools with a student population of 306 in 1978. As there are no universities in

Brunei, eligible students obtain government scholarships for overseas education. There is no stipulation as to the number of students who can receive this scholarship; in 1976, 40 students completed their post-secondary training and studies, primarily in the United Kingdom.

Schools in Brunei are classified according to the language of instruction in the classroom and whether or not they are government supported. There is a Malay-speaking stream, an English-speaking stream, and a Chinese-speaking stream. The terms *English preparatory* (primary) and *English-medium* (secondary) are used to identify the schools in the English-language stream. The desire to promote national unity and identity by making Malay the main medium of instruction conflicts with the concomitant desire to raise the English-usage standard in the schools. In 1975, there was a decision to change the medium of instruction in Chinese schools to English. At the same time, the government provides Malay-language teachers to the eight Chinese schools that get no other government subsidies. The Christian mission schools and Brunei Shell Oil schools are also privately subsidized. The private schools each have their own board of governors so that the government Education Department is only responsible in matters of curriculum, syllabi, and confirmation of teaching-staff registration. The 23 adult education centers charge registration and tuition fees except for the primary literacy classes which are free.

Enrollment levels in the primary grades have gradually increased in Brunei. The 1976 student population of 30,824 increased to 33,308 in 1979. At the same time, schools increased from 146 in 1976 to 160 in 1979. A teacher-student ratio of 1:18 has been maintained as staff increased from 1,679 in 1976 to 1,833 in 1979. Although there has been a gradual rise in student population in both the Malay schools and the English preparatory schools, the student population of the English preparatory schools is more than double that of the Malay-medium student population. Out of the 21 English preparatory schools, 15 are in the Brunei/Muara district which contains about one-half of the population of Brunei as well as its capital city, Bandar Seri Begawan.

At the secondary level, in 1979, there were five Malay-medium schools with a student population of 1,526 and seven English-medium schools with a population of 7,964. The English-medium schools provide a general comprehensive education while the Malay-medium schools are typically more traditional in character with a heavy Islamic influence. During 1976, more girls than boys received an English-medium education while the number of boys was almost double the number of girls in Malay-medium schools. A third type of school, the government integrated school, is developing out of a

Table 1

Numbers of pupils and teachers in different types of school 1976

Secondary schools	Number of pupils	Numbers of teachers
Chinese	625	55
Government Malay	1,526	161
Mission	1,974	94
Government integrated (including sixth-form centers)	2,110	112
Government English	7,964	397

need for a more comprehensive secondary school. There are three government integrated schools with a student population in 1979 of 2,798, including a sixth-form center. At English-medium schools, the male-female ratio is more equally balanced than is the case with Malay-medium schools. Table 1 shows the types of secondary schools available, the number of students enrolled, and the number of teachers. This shows an overall teacher-pupil ratio of less than 1:15 within several of the school systems. To supplement this secondary system further some students receive government scholarships to study overseas. During 1976, 74 students were in the United Kingdom and 49 in the Republic of Singapore.

With the exception of the three vocational schools (two public and one private) and two teacher-training colleges, all other higher education is pursued overseas, for which government scholarships are available. There has been a gradual decrease in enrollment in both the vocational schools and the teacher-training colleges since 1975. The decrease in teacher training could be due to a leveling off of the number of teachers needed as the student population stabilizes and more time is spent on inservice training and improving teacher qualification.

Brunei has been dealing in several ways with the problem of integrating a school system that has a variety of types of school and uses a variety of languages. Among the problems are those relating to teacher training, curriculum, and instructional material which are due not only to the multiplicity of languages but also to a desire to staff the schools with Brunei citizens.

2. Examinations

The Brunei school system has examinations in both Malay and English. Beginning with the fourth year of primary school, it is possible to take an examination in English proficiency to determine entrance into government English-medium schools. After six years of primary schooling, students take the Primary Certificate of Education examination for entrance into the lower-

secondary level. The Brunei Junior Certificate of Education examination is held after three years to determine entrance into the two-year upper-secondary program. This examination is in either Malay or English. After two years in upper-secondary education, students take the Brunei Cambridge General Certificate of Education Ordinary (O') level in the English medium or the Singapore Cambridge General Certificate of Education O' level in the Malay medium.

Students in adult education classes may also sit for the Brunei Junior Certificate of Education examination O' level examinations as well the Brunei Cambridge Advanced (A') level examinations. All of these may be taken in either English or Malay.

3. Personnel

The Education Council is a review and advisory board to the state government of Brunei and submits recommendations for policy implementation by the Education Department. The council membership reflects those sectors of government that are interested in and determine Brunei educational policy. The members include the director of education, chairman of the Public Service Commission, head of the Religious Affairs Department, commissioner of labor, director of the Economic Planning Unit, and director of the Language and Literature Bureau. The directorship of education was the first post to be turned over to a local officer at independence. The policy of having senior posts staffed by local officials resulted in many changes in the Education Department, particularly relating to secondary education.

This handover to local staff called for more inservice training for principals as well as for secondary teachers needing additional qualifications in technical education, commerce, commercial studies, and agricultural science. Principals began visiting Singapore schools and colleges, and secondary teachers were sent overseas for advanced training. This pattern of overseas training has been complemented with needed inservice teacher-training workshops at both the primary and secondary levels. The Planning, Research, and Guidance Unit has implemented projects in English, Malay, science, and mathematics. Officials have organized courses and seminars focusing on methods of teaching these subjects.

Both local and overseas inservice training for teachers is an extension of the three-year teacher-training program at the two teacher colleges. Local lecturers and college staffs, reflecting a continuing change toward local personnel.

4. Teacher Training and Curriculum

The Sultan Hassanal Bolkiah Teacher Training College, Gadong, had produced more than 2,000 trained teachers

for schools at all levels by 1979 and plays an important part in educational development. There have been recent changes in the structure of the teacher-training course to address more satisfactorily the aims of Brunei education (see Sect. 1), aims that imply an increased mastery of teaching methodology in Malay and English as well as subject content.

This stress on the need for proficiency in at least two languages, Malay and English, as well as on common content in all media of instruction is addressed by means of several structural changes in teacher-training courses. All first-year students are required to take similar subjects. Second- and third-year students who intend to teach in lower-secondary schools must take education, Malay, English, physical education, and two areas of teacher specialization. To teach in primary and English preparatory schools requires education, Malay, English, physical education, mathematics, science, and two other areas of specialization. The English-medium teacher requirements are almost the same as those of the primary and English preparatory teachers. The English-medium teacher has only one area of specialization, as there are more courses offered in this language in any one area. Proficiency in the teaching methodology for these languages as well as in technological areas is the target of inservice training and development projects.

5. Projects and Development

Besides the time needed to train teachers in two media of instruction, there has been an ongoing process to meet the need for instructional materials in these languages as well as a need for equal content. The English, Malay, science, and modern mathematics projects of the Planning, Research, and Guidance Unit have produced textbooks and worksheets to be used in the classrooms. Science syllabi and pupil worksheets in Malay and Eng-

lish have been completed. A Literature and Language Bureau has also been established to deal with problems in modernizing the Malay language and in its development as the national language. The bureau takes an active part in projects needed to solve the time and sequencing problems that arise out of two or more languages in the classroom.

Although Chinese pupils are changing to the English medium of instruction and are provided with Malay-language teachers at government expense, one other group of children have to deal with three languages as they go through the Brunei school system. These are indigenous peoples other than Malays. They make up about 10 percent of the population, especially in outlying areas of Brunei. As Brunei is oil-rich and provides universal, free education, many of these children are provided with room-and-board or transportation scholarships. At the sixth-form level, Brunei students are given a monthly allowance during term time. This goes far in providing education for many; yet the demands inherent in gaining an education of quality while having to use three languages are great. This is a challenge for students, teachers, and educational developers alike.

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Bulgaria

A. Fol

During the 13 centuries of Bulgarian history (since 681), learning and enlightenment, together with striving for education and culture, have been constant characteristics of the Bulgarian people, who created the oldest state organizations existing today.

The first schools were set up in Bulgaria in the ninth century by students of Constantine, the philosopher, and Methodius, the creators of the Old Bulgarian script. These schools included the famous Preslav School (AD 866), the Ochrida School set up by Kliment (AD 888), which trained more than 3,500 students, followed later by the Turnovo and other schools. Education was extremely well-developed in medieval Bulgaria before the Ottoman invasion of the country.

Education declined during the centuries of Ottoman domination (1396-1878), but it did not cease to exist. Before the country achieved its liberation in 1878, there were 1,088 schools at different levels within Bulgaria.

Education in the newly established state developed along democratic lines. Compulsory education was introduced for all children—3 years in 1878, 4 years in 1884, and 7 years in 1922. A dense network of schools came into being, maintained by the local municipalities. Schooling followed unified programmes. A great deal was done to eradicate illiteracy quickly. Sofia University was founded in 1888, followed by a number of other institutions of higher education.

The damage caused by fascism (1923-44) in education

was rapidly corrected after the socialist revolution in Bulgaria in 1944. The democratic spirit of education and the creative initiatives of the lecturers were firmly established. The content and the organization of the educational process were reconstructed and further improved. The foundations of modern Bulgarian education were laid.

The People's Republic of Bulgaria is a country in southeastern Europe situated in the eastern part of the Balkan Peninsula and occupying 22 percent of its area—110,911 square kilometres (287,260 square miles). To the north is the Socialist Republic of Romania, to the west the Socialist Federative Republic of Yugoslavia, to the south the Republic of Turkey and the Republic of Greece, and to the east Bulgaria borders on the Black Sea.

Bulgaria's population was estimated at 8,903,352 in 1981 (80 per square kilometre), of whom 50.07 percent were women. Over 63 percent of the population lives in urban areas. The population growth rate is 3 percent.

Bulgaria is administratively divided into 28 districts. Its biggest city is Sofia (the capital city since 1879, with 1,024,000 inhabitants), which is the principal administrative, political, economic, and cultural centre; other large cities are Plovdiv, Varna, and Rousse.

The country has a socialist socioeconomic system based on public ownership of the means of production and on a planned economy. In 1980, the active population (4.36 million) created a gross domestic product of 57,902 million leva and a national income of 20,508.6 million leva. High and stable rates of economic development have been attained since 1960 on the basis of the latest achievements in science and technology.

Over 93 percent of the national income is based on foreign trade. There is a process of economic integration, primarily with the Soviet Union and the countries of the socialist community. The forecast for Bulgaria's development up to 1990 indicates further accelerated development.

1. Size and Structure of the Educational System

During the 1981–82 academic year, elementary schools (grades 1–8, level 1) and secondary schools (grades 9–11 or 12, level 2) enrolled 1,403,112 students in 4,246 schools. A total of 106,685 students completed secondary education in 1981 in unified secondary polytechnic schools, *gymnasias*, and vocational schools. Higher and semihigher education institutions—level 3—enrolled 95,820 students. During the 1981–82 academic year, 23,243 first-year students were accepted by the institutions of higher education and a total of 15,541 students graduated from those institutions.

Bulgaria has 2 million citizens who have completed a full secondary education (45.8 percent of the active population) and 375,432 who have completed higher education (8.6 percent of the active population).

Preschool education constitutes a composite part of the educational system. There is an extensive system of preschool institutions (kindergartens) in the country (5,918 in 1981–82 for 497,297 children, that is 75.6 percent of all children aged 3–6). The goals of preschool education are to bring up a healthy and buoyant generation, to provide the young with their initial ideas about the world, and to develop intellectual and physical skills, habits of labour and hygiene, correct social behaviour, and a collective spirit.

Primary education is compulsory for all children and lasts eight years. Children enter school at the age of 7. In the volume and nature of its instruction the Bulgarian primary school is up to the highest world standards. The organization of the educational process corresponds to all contemporary requirements of pedagogy. The total number of primary schools is 3,126.

A complete secondary education can be obtained in three types of schools:

- (a) unified secondary polytechnic schools and *gymnasias* (424 in number) which provide general education and training, labour skills, and polytechnic knowledge;
- (b) technical colleges and secondary schools in the arts (totalling 232), providing training to specialists of secondary education; and
- (c) secondary vocational–technical schools (239 in all), providing both general education of a relatively high level and skills in a variety of occupations.

A system of out-of-school institutions has been provided for developing the individual skills and talents of students in science, the arts, technology, and sports. There were 130 Pioneer Children's Homes (taking children up to 14 years of age) in the country in 1980, as well as 33 Stations of Young Technicians, 48 Stations of Young Agrobiologists, schools for the arts and music, choirs, dance ensembles, facilities for sports and tourism, etc. National reviews of the scientific and technical creativity of youth are organized every year for the students of secondary-education institutions (level 2).

The Banner of Peace movement, which is gradually becoming an international movement of young people, plays an important organizing and stimulating role in their development.

Higher education is of two types: complete higher education (4–6 years of training) and semihigher education (3 years).

Complete higher education is provided in 69 faculties in 29 educational institutions (5 universities, 10 higher institutes of engineering, 3 of economics, 4 of medicine, 2 of agriculture, 4 of the fine arts, and 1 of sports). There are 85,068 students in complete higher education, which is also open to foreign students (4,616 in all).

Semihigher education can be obtained in 24 educational institutions—mainly for teachers in kinder-

gartens and primary schools, for instructors in practical training, and for specialists engaged in cultural institutions, communications, the tourist trade, etc. (a total of 10,752 students).

2. Administration and Finance

The administration of education is based on the principles of democratic centralism. Its leading organ is the Higher Educational Council which is elected by the Congress of Education, composed of teachers, scientists, artists, and representatives of social, political, and economic organizations. The minister of education is also president of the Higher Educational Council.

Each district has an educational council which deals with the problems of education in the district. Each school has its board which is vested with great powers over the affairs of the school.

Education is financed mainly by the state budget (and accounts for about 5.2 percent of the national income). The budget for education increased by 47.8 percent from 1973 to 1980. Educational institutions also have revenues from the sale of products of the school workshops, from industrial and agricultural establishments where specialists are trained, and from donations, etc.

All training—from kindergarten to higher education—is free of charge. Textbooks and books for primary and secondary schools are also free; textbooks for higher education are heavily subsidized.

Some 10 percent of the students in general-education secondary schools and about 50 percent of students in technical colleges and secondary vocational-technical schools receive scholarships, with free working clothes being provided for all. About 50 percent of the students in higher education institutions receive scholarships. There are special scholarships for excellent students.

3. Teaching Personnel

In 1981, there were 27,776 teachers in kindergartens and 102,785 in the primary and secondary schools. Over 94 percent of teachers have received special training. The young teachers and lecturers appointed since the early 1970s are highly qualified and most of them are university graduates.

Teachers are trained in the universities, in the pedagogical institutes, and in some of the technical, agricultural, and economic institutes. Obligatory and periodic courses of postgraduate training have been provided for all teachers. Further improvements are also made through pedagogical conferences, seminars, symposia, etc., organized by the schools, districts, and the Ministry of Education.

The faculty of higher education institutions totals 12,820, including 1,921 part-time lecturers. The figure comprises 908 professors, 2,243 associate professors, 6,696 assistants, and 2,974 lecturers.

4. General Trends in the Development of Education

After extensive research and discussions, the strategy to be followed in the development of Bulgarian education was finally worked out in 1979 at a high political and administrative level. A comprehensive reform of education was initiated.

The general objective of school training was formulated as follows: "... the formation of versatile, and in the course of time, of universally developed individuals capable of full realization in life" (Zhivkov 1979). This general aim is to be attained above all through the new unified secondary polytechnic school which enrolls all young people and provides a full secondary training and extensive general education. It also provides the individual with the requisite scientific, theoretical, and practical foundations for one broadly conceived specialization and for one narrow vocational field. This involves 12 years of study (6-18 years of age).

The purpose of higher education is mainly to make qualitative improvements in the individual's knowledge. This will involve a higher level of basic knowledge, while the student's specialization will be pursued under conditions very similar to those he or she is likely to encounter in the future practice of the speciality. Provisions are made for the modernization and development of the material and technical structure employed by institutes of higher education.

The reform takes account of the new opportunities available for out-of-school training, such as the mass media, as well as the existence of a nationwide system of lifelong training connected with the country's educational network, industry and science, and culture.

Research is under way in specialized institutes at the Ministry of Education, in many laboratories and working groups, among individual scientists in higher education institutions, at the Bulgarian Academy of Sciences, at the Medical Academy, and in many schools. All this research is coordinated by a special organ at the Ministry of Education and is directed towards relevant social, economic, psychological, and methodological problems, the content and method of education, and the links between the roles of the school and of extraschool education and training.

It is expected that the current reconstruction will be completed by 1990.

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Burkina Faso

J. T. Brady

Burkina Faso, formerly the Republic of Upper Volta, with an area of 274,000 square kilometers (105,764 square miles), is a landlocked West African nation of approximately 6.4 million people, bordered by Mali to the west and north, by Niger to the east, and to the south by the Ivory Coast, Ghana, Togo, and Benin. A former French colony, administered as part of the French West African Federation, Burkina Faso achieved independence in August 1960. Just over half the population (54 percent) are Mossi, an agrarian people living in the overpopulated and overcultivated central plateau region, possessing a rich cultural tradition and heritage deriving from the 800-year Mossi Empire. The administrative capital and largest city, Ouagadougou, is also the traditional home of the Mossi emperor, the Moro Naba. To the west live the Bobo people in an area of relatively greater commercial and agricultural productivity, the center of which is Burkina Faso's second largest city, Bobo-Dioulasso. Islam has approximately two million adherents, and there are some 600,000 Roman Catholics. Over half the population follow traditional animist belief systems.

Since independence, Burkina Faso has experienced political turmoil, economic hardships, and recurring drought in the Sahel region. A mean population density of 25.2 per square kilometer (but with a range from 4 to 70 inhabitants per square kilometer) and annual growth rate of 1.7 percent between 1975 and 1980, in combination with poor soil, drought, and low expansion in the availability of productive employment, has resulted in an estimated annual migration of 500,000 to Ivory Coast and Ghana for industrial and plantation labor, of which 10 to 20 percent stay away permanently. Some 46 percent of the population is under 15 years of age.

The gross domestic product in 1980 was 302,000 million CFA francs, of which the primary sector accounted for 38 percent, the secondary sector for 20 percent, and the tertiary sector for 42 percent. The per capita income was 45,000 CFA francs. Some 95 percent of the population is employed in rural areas.

1. Goals of Education

Immediately following independence, new goals were set for primary education. These goals included awakening in the child a sense of national belonging, greater emphasis on national history and culture, and equipping the child with skills needed for everyday work and living. The Africanization of the secondary-school curriculum was conducted within the framework of the African Francophone Ministers of Education Conference, at which equivalence of certificates was agreed. Particular efforts were made to make the curricula in

history, geography, the natural sciences, and literature relevant to the participating African countries.

The *Centre de Documentation et de Perfectionnement Pédagogique* (CDPP)—an educational documentation and improvement center in Dakar, Senegal—began work in 1963 in preparing programs, including radio programs, in French and new mathematics. Since then it has produced inservice teacher-training packages for nearly all subjects at all grade levels. These are widely used in Burkina Faso.

The current major goals for education in Burkina Faso are literacy and basic education for all; the reform of the curriculum to ensure that children acquire the skills needed for their work lives; and the introduction of instruction in the national languages—Moré, Dacula, and Fulfulda.

2. Structure of the Educational System and Enrollment

Figure 1 presents the structure of education in Burkina Faso. It is based upon the French model. The trimester academic calendar lasts from October 1 to June 30, and the language of instruction is French. An agreement between France and Burkina Faso on April 24, 1961 established a cooperative basis for coordination of curricula and degrees. Preschool education for children aged 3 to 5 years of age enrolled only 727 children in 1981. Most preschools are in towns, although there are some small experiments being conducted in rural areas.

Compulsory education lasts six years from the ages of 7 to 12. Pupils may attend public or private schools. There are 30 hours of school per week.

Successful completion of primary school leads to the *certificat d'études primaires* (CEP) and determines access to secondary *lycées, collèges*, or general schools. The first cycle of secondary school lasts four years and leads to the examination for the *brevet d'études du premier cycle* (BEPC). The most capable students pass to the second cycle of secondary education, lasting three years,

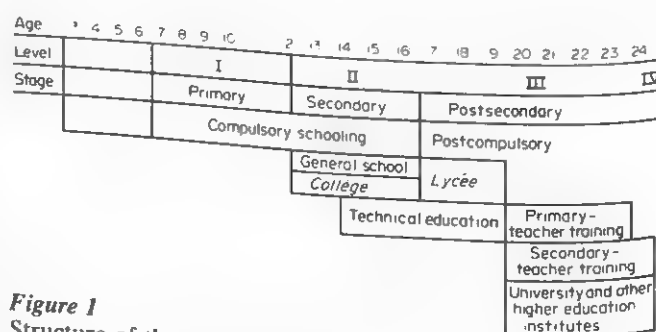


Figure 1
Structure of the educational system

and specialize in one of four courses leading to the *baccalauréat*: art, economics, physics and chemistry, and the natural sciences.

Technical education commences after two years of secondary education and is provided in separate institutions. Both primary and secondary education is available in public or private denominational schools receiving state subsidies. In 1981, 10.3 percent of all primary pupils were in private schools, and 49.9 percent of all pupils in secondary education were in private schools.

Higher education in Burkina Faso is provided by Ouagadougou University, the National Institute of Administration, the Inter-state School of Rural Engineering, the National Institute of Education, the Institute of Agriculture, and the Centre for Scientific Research. The first stage of higher studies, of two years' duration, leads to the *diplôme d'études universitaires générales* (DEUG), the *diplôme universitaire d'études biologiques* (DUEB), or the *diplôme universitaire de technologie* (DUT). After two years at the Institute of Education, future teachers may obtain the *certificat d'aptitude pédagogique pour les collèges d'enseignement général*. The second stage lasts one year and leads to the *licence* in all institutions; a further year will qualify the student for *maîtrise*. One further year of pedagogical training will qualify the graduate for a teaching position in the second cycle of secondary school or at the university level. Degrees are conferred after two years of study in agronomy, animal husbandry, civil and rural engineering, business, and the humanities. The Institute of Agriculture offers a five-year course leading to the *diplôme ingénieur conception*.

The illiteracy rate in Burkina Faso is 92 percent, one of the highest in the world. The rural education program is designed to allow children between the ages of 13 and 18 who have not had any previous education to have three years of basic education. In 1961, there were 182 rural education centers, and in 1973, there were 736 centers enrolling 24,000 students. Two other programs exist: for the equalization of the access of women and girls to education, and for the improvement of rural artisans' skills. The enrollments fall far short of what is needed.

Education in Burkina Faso developed slowly during its 50 years as a French colony. In 1951, there were

14,000 students enrolled in primary schools. By 1961, 64,000 were enrolled, representing only 7 percent of the eligible students; there were also 1,890 in secondary academic programs, 605 in technical programs, and 905 in teacher training for the primary level. Table 1 presents enrollments in the year 1981–82.

Education at the first level has been free since 1965, and access to it is available without distinction of race or sex. However, only about 16 percent of the children in the 6- to 12-year-old range receive formal schooling. In 1983, there were approximately 250,628 pupils attending primary school out of a population for the relevant age group of 1,500,000. Thus, Burkina Faso has one of the lowest enrollment rates in Africa. This average masks the fact that enrollment rates vary between 10 and 60 percent from rural to urban areas. Girls represent 37 percent of enrollments. Only 22 percent of boys and 18 percent of girls entering primary schools succeed in passing the CEP examination at the end of primary school. Some 30,500 were receiving secondary or technical education or teacher training. In 1983, 2,688 students were enrolled in courses of higher education.

The government seeks to increase the number of schools in order to expand the educational opportunities for rural families, through such programs as *Education Rurale*. Such programs have been hampered by financial and political difficulties. A rural educational radio service has been established to expand agricultural and technical information to the rural inhabitants of Burkina Faso, who comprise approximately 95 percent of the country's population. In addition, there are 800 *Centres de Information de Jeunes Agriculteurs* (FJA), which provide agricultural instruction.

Education at the second level consists of a seven-year course of study for those students successfully completing the CEP examination at the end of six years of primary school. Some 3 percent of the overall population is enrolled in secondary-education programs, of which 36 percent are female. Only 20 students per 100,000 inhabitants are enrolled in postsecondary or third-level educational programs, including primary and secondary teacher-training programs, as well as enrollment at the University of Ouagadougou, and foreign universities in West Africa, Europe, and North America.

Table 1
Enrollments, 1981–82

	Public schools			Private schools			Total
	Boys	Girls	Total	Boys	Girls	Total	
Primary	128,854	74,712	203,566	12,935	8,069	21,004	224,570
All secondary	10,231	3,504	13,735	9,095	6,132	15,227	28,962
Higher			3,928				3,928

3. Teacher Training

Primary-school teachers are trained for two years; male students attend the Ouagadougou and female students the Koudougou training institutions respectively. Entrance requirements are at least three years' secondary education and successful completion of the *concours* examination. Teachers in secondary schools must possess the *baccalauréat* and successfully complete a four-year course of training as either certified teachers or as graduates for lower and higher stages of secondary school.

4. Administration and Finance

Education in Burkina Faso is under the authority of the minister of education, with the exception of certain vocationally oriented training programs, such as post- and tele-communications and nursing training, which fall under the administration of the appropriate ministries. The head of the Office of Higher Education assists the minister in the planning and presenting of higher education programs to the Directorate General of National Education. This body consists of all the directors within the Ministry of Education (the directors of primary, secondary, agricultural, and technical education and of teacher training), as well as a member of each ministry. Upon acceptance by this board, programs are submitted to the cabinet for the president's signature. The director of higher education also serves as rector and chief executive of Ouagadougou University.

Education is financed through external aid, central funds, and community organizations. Tuition in primary education is free, although parents pay for pupils' equipment. Secondary students pay a fixed sum for their education, and scholarships and grants are available. In 1981, some 14 percent of the state budget was allocated to education. (This rose to 23 percent in 1983). In 1981, out of a state budget of 47,200 million CFA francs, 126 million were allocated to education for capital costs and 6,620 million for recurrent costs. From the recurrent budget, 63.4 percent went to salaries (49.8 percent in 1983), 33.5 percent to scholarships (32.8 percent in 1983), and 3.1 percent for materials (0.7 percent in 1983). By level of education, 43.9 percent went to primary education (36 percent in 1983), 21.3 percent to general secondary (17.1 percent in 1983), 1.8 percent to technical (1.9 in 1983), and 26.8 percent to higher education (28 percent in 1983). Administration costs accounted for 6.2 percent.

With the exception of the *Ecole Inter-états des Ingénieurs de l'Équipement Rural*, a rural development and education program financed jointly by the 14 francophone nations in accordance with a set percentage of their budgets, programs of higher education are funded by government funds and foreign aid; foreign aid constitutes approximately 80 percent of the university budget. Higher education is free, with 90 percent of the students receiving a living allowance according to their needs.

5. Major Problems

The two major problems are to move as rapidly as possible to universal primary education and to reduce illiteracy as far as possible. Given the limited financial resources, these are formidable problems.

If universal primary education were to exist in 1983, there would be 1.4 million children in primary school in 35,750 classrooms. If the same were to apply to secondary schooling, 283,000 pupils would be in 7,125 classrooms. Even to achieve the number of classrooms needed, 9,500 million CFA francs per year would be needed between 1983 and the year 2000.

The curriculum still needs to be made more relevant to the needs of the pupils. This work will continue, partly in the form of curriculum development and partly by changing the language of instruction.

Financial help from outside Burkina Faso will be needed, but above all the country must preserve its cultural identity—its languages, its art, its music and dance, and its artisan skills.

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Burma

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The Socialist Republic of the Union of Burma is located in Southeast Asia, bordered on the east by Thailand and Laos, on the north by China, on the northwest by

India, on the west by Bangladesh, and on the south by the sea.

The country's territory of 676,552 square kilometers

(261,217 square miles) slopes from north to south, surrounded on three sides by a great horseshoe of mountains. Three river systems flow through the wide lowlands in the center, providing drainage and water-transportation routes. The huge delta, where the capital city of Rangoon is located, forms one of the greatest rice bowls of the world.

The population in 1980 exceeded 33 million, with a density of 49.2 people per square kilometer and an annual growth rate in the 1970s of 2.4 percent. Although the greatest population concentration is in the lowlands and delta region, there is no problem of heavy urbanization.

In terms of ethnic composition, Burmans, who live mainly in the central lowlands, make up 65 percent of the population. The remaining 35 percent consists of ethnic minorities located mostly in upland areas, separated from one another and maintaining their own cultures. While the Burmese language has long been adopted as the official national tongue and as the instructional medium in schools, some minority groups continue to use their native dialects. This self-segregation by minorities has posed problems for national political unity and for preparing teachers and curriculum materials suitable for all regions of the country.

Two-thirds of the labor force work in agriculture, forestry, and fishing, with rice production forming the country's dominant economic base. One measure the government adopted recently to encourage greater integration of minorities into the mainstream of national life was the promotion of vocational education in the hope of motivating minority groups with the prospect of well-paid jobs.

In religious affiliation, over 85 percent of Burmese are Buddhists, with many of the rest subscribing to animist or Christian beliefs.

Burma has a political history of colonial occupation, first by the British from the mid-nineteenth century until 1941 and then by the Japanese during the Second World War. After Burma gained independence in 1948, the country experienced a period of political instability until a coup d'état in 1962 brought a strongly centralized socialist government to power, a government that nationalized industries and commercial ventures. In the early 1980s, government armed forces were still endeavoring to quell minor uprisings by rebellious groups, a condition which slowed educational development in the affected regions.

1. Educational Background

Before the British conquest in the nineteenth century, religion and the state in Burma were closely related. The state supported the Buddhist faith, while monasteries served as schools, with the monks as teachers. Women enjoyed a high degree of social equality, and even peasants of modest means learned to read. This tradition has helped maintain a high level of literacy among the less privileged classes up to modern times. In recent

years, literacy among males aged 15 and older has exceeded 80 percent. In 1977, some 81 percent of girls and 87 percent of boys of primary-school age attended school for at least some length of time, with girls displaying a lower dropout rate than boys. Nearly half of the students in secondary and tertiary education in the later 1970s were females.

Western schools were introduced into Burma in 1825 after the first Anglo-Burmese War. Throughout the century of British rule, terminal schools conducted in the Burmese language offered education of minimal quality and suffered a high dropout rate. Less than 12 percent of the entrants completed the fourth year, and only 4 percent reached the ninth year. A small number of Burmese attended English-language schools which prepared students for university education. Although some higher education institutes of liberal arts, teacher training, and technical education were established, seldom did Burmese students finish tertiary education.

During the Japanese occupation in the early 1940s, Japanese officials changed the British system into a single-track structure with a four-year primary school, a three-year lower-secondary level, and two-year upper-secondary school.

2. Present-day School System

The 4-3-2 sequence of schools continued until 1961, when a matriculation class was introduced for high-school graduates. In 1966, the Basic Education Act inaugurated a 5-4-2 sequence, thereby extending both the primary and middle schools by one year. Three varieties of upper-secondary or high school were instituted—general, technical, and agricultural.

By 1978 the higher education system was composed of 2 universities, 17 regional colleges, 7 intermediate colleges, 3 institutes of medicine, 8 other institutes in various fields (e.g., medicine, agriculture, economics, education, technology), and correspondence courses. Political cadre training was also offered at the tertiary level. Postgraduate courses on Buddhism continued at the International Institute of Advanced Buddhist Studies.

By 1978, the total primary enrollment was 3.7 million pupils attending 23,009 schools, which represented a majority of the primary-school aged children. There were 754,079 pupils in 1,302 middle schools and 170,660 in 596 high schools. The enrollment in higher education was 112,671, with 3,922 instructors.

Nationwide educational affairs are the responsibility of the Ministry of Education. The ministry contains departments for basic education, vocational/technical education, higher education, examinations, research, and development of the national language.

3. Curricula and Teacher Education

Following the acquisition of basic skills in the primary school, students in the middle school study mathemat-

ics, social studies, general science, and English as compulsory subjects. At all school levels, Burmese is the language of instruction. At the secondary level, the earlier university-preparatory science and arts streams were changed in recent years into an "all-round development education," covering four groups of subjects—rural studies, technical studies, handicrafts, and domestic science.

At the close of secondary schooling, students take a state examination in order to earn a high-school diploma and the opportunity for further study at a higher education institution, which they can attend by paying a nominal tuition fee.

The nation's teacher-training system is geared to meeting the immediate demand for teachers as soon as possible. As a result, the system is organized so that an individual becomes qualified to teach at a given school level through having completed one level higher plus one or two years of teacher training. For example, primary-school teachers must have completed at least the middle school and teacher training at the high-school level in order to become qualified for a teaching post. In the 1970s, there were 12 teacher-training schools at the high-school level responsible for preparing primary teachers and three teacher-training institutes of junior-college status for supplying middle-school teachers. By 1978, these two varieties of institution enrolled 5,326 students.

In addition, an Academy for the Development of National Groups was opened in 1964 to train young Burmese from different ethnic groups to serve as community leaders and teachers for their regions.

4. Major Problems

The most serious problems in Burmese education have been ones of educational wastage—a high rate of pupils repeating grades, a high dropout rate, and an inadequate match between schooling and the personnel

market. From 1970 to 1977, the ratio of enrollments between primary and secondary schools was roughly 4:1, while at the tertiary level only 3 percent of the age group were enrolled by 1977.

To cope with these problems, the government planned to institute compulsory primary schooling by the mid-1980s for children aged 5 to 9. At the secondary level, more vocational and technical studies are being offered, and in higher education courses are being rearranged to relate the content of schooling more closely to working conditions in the labor market. The development of rural life has also been emphasized. The opening of 18 regional colleges in 1978 and the formal establishment of university correspondence courses reflected the government's plan to try to meet the people's educational needs in their home districts.

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Burundi

L. Ntawurishira

Burundi became an independent state on July 1, 1962. It has an area of 27,834 square kilometres (10,750 square miles), and in the 1980 census the population totalled 4.1 million, an average of 147 inhabitants per square kilometre. The annual population growth rate is 2.2 percent.

Burundi, in central Africa, lies 1,200 kilometres from the Indian Ocean and 2,500 from the Atlantic. It is bordered on the east and south by Tanzania, on the west by Lake Tanganyika and Zaire, and on the north by Rwanda.

It was governed by a hereditary monarchy from the fifteenth century until it became a republic in 1966. In November, 1982 a constitution was adopted by a

referendum, establishing a presidential regime with one party only, the president of the party being the sole candidate for the presidency of the republic and being elected by universal suffrage.

Burundi is a mountainous country with a temperate climate which ranges on average from 23° to 33°C over the year. Some 90 percent of the country is agricultural and the land is very fertile because of heavy rainfall; thus, it can nourish the whole population without having to import much food.

Exports include coffee (which provides three-quarters of the national income), skins, tea, cotton, and some minerals. Mining prospecting has discovered deposits of nickel and there are indications of other minerals.

the mining of which may transform the country's economy. Per capita income in 1982 was US\$110-130.

School education began with colonization, and the first school was set up in 1909 at Bujumbura, the present capital, by Germans. Subsequent educational development was closely connected with the establishment of missions, which had begun in 1896. The German Protectorate, which started in 1903, came to an end during the First World War, and Belgium then took it over, until July 1, 1962.

During the Belgian administration, colonial schooling policy gave priority to the development of primary education until the 1940s. During the 20 years before independence, the Belgians considerably developed general secondary education, but very little was done in the areas of technical and vocational education. Two years before independence, a nucleus of higher education was created.

Since independence, the different types of education have continued to evolve.

1. General Structure and Extent of the Educational Effort

Figure 1 presents the structure of the educational system.

1.1 Preprimary and Primary Education

Preprimary education exists only in some of the large towns and is carried out by private persons or institutions; it involves 4- to 7-year-old children. The state encourages this, but for reasons of economy prefers to devote its resources to other levels of education.

Primary education enrolls children aged 7 or 8 and keeps them for six years. Instruction is given in Kirundi, the language spoken by the whole country. From the third year onwards, French is taught as a second language. At the end of sixth grade, a state examination, in French, assesses achievement in French and mathematics and selects children to proceed to secondary education.

This examination began in 1964, initially as an entrance examination to secondary education, and its aim was to avoid favouritism and ensure that all children finishing primary school should have the same chances of proceeding to secondary school. As the number of children increased considerably in proportion to the number of places available in secondary education, the examination became very competitive. It is constructed by a special commission of the Ministry of National Education.

The present system of primary education, with 65.7 percent of children dropping out, is not viable. To help improve universal primary education, it is envisaged, within the framework of the current reform, to introduce automatic promotion from one grade to the next in primary school. Double shifts are also to be introduced, one group of children attending morning school, and another in the afternoon. This will double the percentage of those receiving instruction. In 1981, it was only 21.8 percent of the relevant age group.

Apart from these schools, which are financially and organizationally under the authority of the Ministry of National Education, there are private primary schools called *Yaga Mukama* (literally, "Cause Lord God"), which are under the authority of the Catholic Church

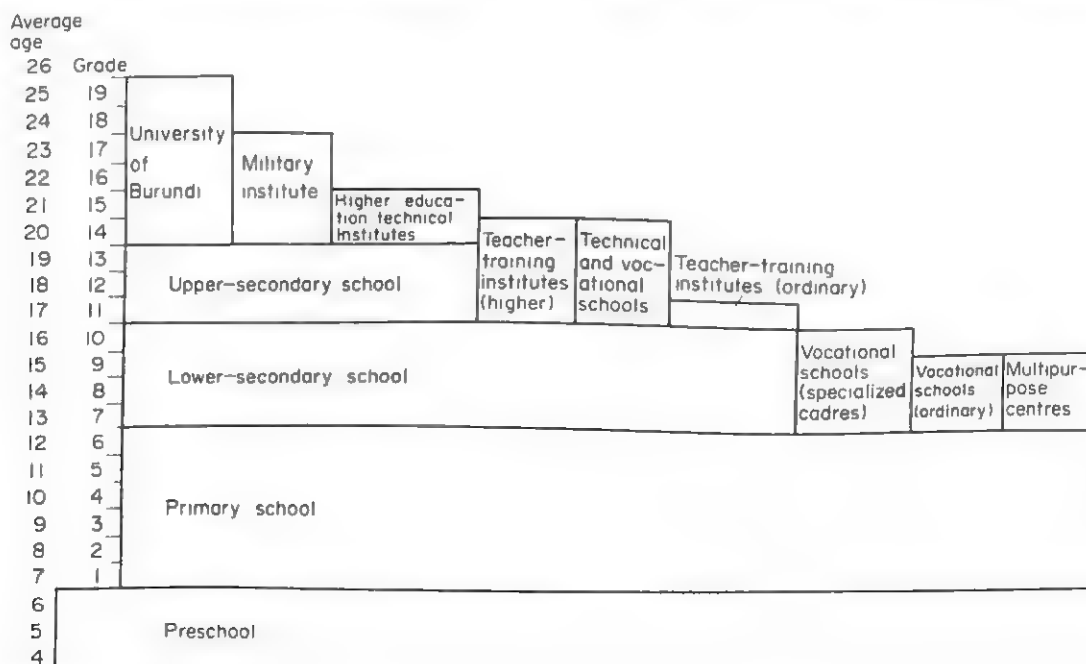


Figure 1
Structure of the educational system

sector of the economy—agriculture, fishery, and animal husbandry—with such cash crops as cocoa, coffee, cotton, groundnuts, palm, tea, and rubber accounting for about 36 percent of the gross domestic product (GDP). Modernization of peasant methods of cultivation has again been emphasized in the fifth five-year plan (1981–85), and it is here that the importance of education has been stressed. The development of functional literacy has been seen as one way to equip the rural population for acquiring the knowledge and techniques that will make their efforts more productive. For this reason adult literacy classes are often integrated with other forms of training given to farmers by cooperatives and agricultural extension personnel. In one of the most ambitious educational experiments, labeled IPAR, attempts have been made to reform the curricula of primary schools and teacher training so as to orient school work towards a better understanding of rural life. Thus, educational development has been seen as the greatest stimulus for improved agricultural productivity.

2. Structure and Size of the Education Effort

Primary schooling (ages 6–12) remains the only basic education for most of the literate population. Less than 25 percent of primary-school leavers continue to secondary school (ages 11–18), and less than 5 percent of those completing secondary school go to university. By 1970, the proportion of primary-age children in school had reached 70 percent, compared to only 15 percent in 1960. The demand for schooling far exceeds the education effort, and education is everywhere the principal concern of parents and the government.

The French and the British systems of education continue (Fig. 1). The francophone system comprises 6 years of primary schooling followed by a 4-year plus a 3-year lycée-type secondary-school system. In the two anglophone provinces of the country, the duration of primary schooling is 7 years from age 5 plus. This is followed by a 5-year plus 2-year secondary-school cycle. Both systems merge into one national system of higher education for both anglophones and francophones.

Average age	Year of school	Anglophone system	Francophone system	Level
26	21	Doctorate	<i>Doctorat</i>	Higher education
25	20	Masters	<i>Maîtrise</i>	
24	19	Postgraduate	<i>Diplôme d'études supérieures</i>	
23	18			
22	17	First degree	<i>Licence</i>	
21	16	Advanced teachers	<i>Ecole normale supérieure</i>	Secondary education
20	15	Advanced technical training	<i>Grandes écoles</i>	
19	14	7 High school - grammar	1- 2 ^e cycle lycée enseignement - général - technique	
18	13	6 - technical Teacher training		
17	12	5 Secondary	1 ^e	
16	11	4 - grammar - technical	2 ^e Ecole normale	Secondary education
15	10	3 - teacher training	3 ^e 1 ^{er} cycle lycée	
14	9	2	4 ^e Collège d'enseignement - général - technique	
13	8	1	5 ^e Ecole normale	
12	7	7		
11	6	6	CM ²	Primary education
10	5	5	CM	
9	4	4	CE ²	
8	3	3	CE ¹	
7	2	2	CP	
6	1	1	CI	Kindergarten or nursery education

Figure 1
Structure of schooling in Cameroon

French–English bilingualism is a requirement for academic work at this level.

Since one of the major goals of the school system is to promote national unity, Cameroon's first university was established as a bilingual institution as the first step in creating a unified structure of schooling for all Cameroonians.

Teaching two foreign languages as the country's official media of communication is the major function of schools. Nevertheless, the survival of Cameroon's native languages and the hope of deriving a lingua franca from them has not been forgotten. In the cities of

Table 1
Expansion of enrolment from 1965–66 to 1980–81

Year	Nursery	Primary	Secondary—general	Secondary—technical	Secondary—normal	University
1965–66	—	742,000	29,000	—	—	—
1966–67	—	774,000	33,000	—	—	—
1970–71	—	923,000	56,000	—	—	—
1975–76	—	1,123,000	105,000	17,400	—	—
1978–79	32,000	1,254,000	147,000	31,000	—	2,600
1979–80	37,000	1,303,000	154,000	45,000	—	7,200
1980–81	41,000	1,380,000	169,000	52,000	1,700	10,600
				56,000	1,900	10,300
					2,100	10,400

Source: Ministry of Education 1966–81 *School Statistical Yearbooks* Ministry of National Education, Yaounde, Cameroon

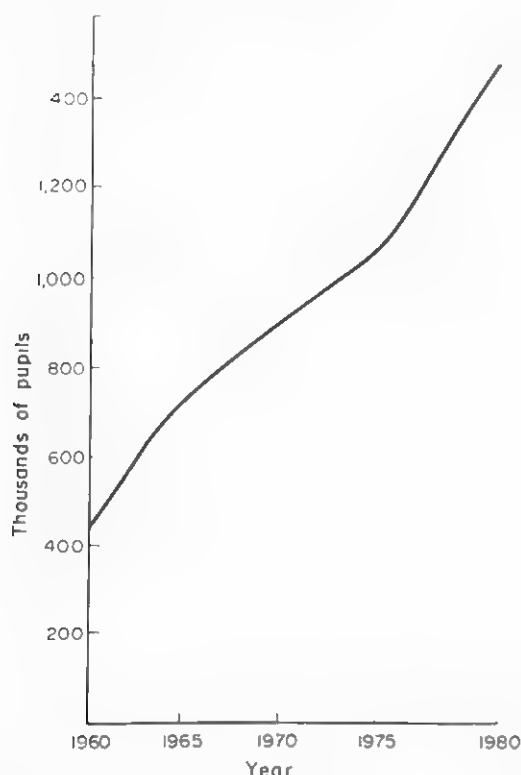


Figure 2
Primary-school enrolment 1960-80

Yaounde and Douala, the teaching of some Cameroon languages (Douala, Bassa, Ewondo, and Bamelike) has been tried with some success. There are a number of linguistic-research projects being carried out, directed towards preparing manuals for the formal teaching of Cameroon languages. The summer Institute for Linguistics

is doing intensive research in this area (*Société Internationale de Linguistique* 1981).

Since independence, educational expansion has been rapid (see Table 1 and Figs. 2 and 3). In addition to the goals outlined in Sect. 1, educational policies have also been aimed to achieve regional balance. One of the major targets of the first and second five-year development plans (1960-65, 1966-70) was to reduce regional imbalance in educational expansion, bringing the northern and eastern sections of the country up to the more advanced levels of school enrolment found in the southern and western sections. In addition, the government is seeking to enrol a higher percentage of girls and of rural children.

3. Finance and Administration

In a highly centralized system modelled on the French schooling structure, the Ministry of Education has complete jurisdiction over all levels of education, ranging from setting goals established by national policy to issuing instructions on minute functions of the educational machine. Important agents of the central authority are the school inspectors who prepare programme changes, supervise teaching, determine the suitability of textbooks, and organize the examinations for the primary-school-leaving certificate, secondary-school diplomas, and teacher-training certificates.

There is a sharp distinction between state-owned and private schools. In 1977, over 60 percent of the nation's 5,000 primary schools were state owned and nearly 40 percent privately operated. Of the 300 secondary schools, 54 percent were state owned, while at the tertiary level all institutions were under the government's administration. Education in government institutions is free of charge. Private schools are fee-paying, although the majority of private schools receive government subsidies to cover teachers' salaries.

The proportion of the recurrent national budget devoted to education continues to be rather high: 20 percent in 1981-82 and 40 percent in 1982-83. Since salary increases required by the rising cost of living continue to take up 85 percent of the education budget, little money is left for educational innovations aimed at improving the quality of education.

Two further sources of educational finance are parents and local communities or associations that provide scholarships and funds for equipment and buildings.

4. Curricula

The central issue in curriculum development is how to discard the French and British heritages and evolve school programmes which are better adapted to the nation's needs.

The IPAR project (see Sect. 1) at the primary level has aimed not only at introducing a high dose of practical work into the curriculum, but also at making the school

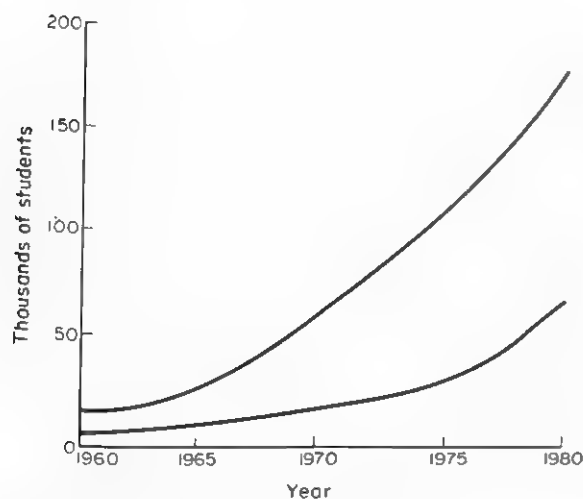


Figure 3
Secondary-school enrolment 1960-80

and its teachers catalysts of rural development (Lallez 1975, Yembe and Kale 1980).

At the secondary level, the bilingual school experiment sought to solve the thorniest of Cameroon's educational problems by aiming to produce students equally fluent in French and English (Yembe 1979).

In higher education, one of the most noteworthy efforts to depart from the traditional organization of a university faculty of medicine has involved training a variety of medical and paramedical personnel in the same institution. Furthermore, one of the university centres is to be developed into an American-type land-grant college to stimulate the development of agriculture in the region surrounding the university.

However, despite these reforms, the present school curricula remain largely a replica of those existing in colonial times.

Alongside the formal school system, nonformal programmes have been created, some designed to engage school leavers in practical-skills training and others intended especially for the interests of women. Both the Department of Community Development and Christian church organizations have spread programmes in domestic science and adult literacy to remote villages. Farmer cooperatives have taught modern production skills and ways of distributing agricultural products.

In the Koranic schools, which are found primarily in the northern sectors of the country where there is a large Moslem population, traditional Islamic curricula continue to dominate. There are also Anglo-Arab and Franco-Arab schools which combine the secular primary-school programme with elements of the Koranic school, teaching Arabic alongside either English or French.

5. Examinations

Class promotion, examinations, competitive school-entrance tests, and certificate examinations are all regulated by detailed instructions from the Ministry of Education. In the late 1970s, the scramble for places in some of the well-run nursery schools inspired some headmistresses to set selection examinations for 3- and 4-year-olds.

Throughout the system, from primary school through the university, advancement of pupils from one class to the next is determined by tests, with the pass or fail mark often fixed beforehand by regulations from the ministry. As a consequence, these tests become a significant factor in determining who stays at school and who drops out.

Likewise, certificates and diplomas, which are so important for graduates seeking employment or further schooling, are awarded chiefly on the basis of examination scores. It is not the individual institution, but rather the state, which awards certificates and diplomas under the signature of the minister of education or his representative.

6. Personnel

Despite great efforts to expand teacher-education facilities since Independence, a drastic overall shortage of trained teachers in the school system continues to exist. Mathematics and science teachers are still in great demand and expatriates in these fields are still attracted with offers of more favourable conditions of service than those granted to nationals. There is also a lack of specially trained personnel for the administration and supervision of the system. There is a tendency to appoint school administrators and inspectors from among serving teachers of noteworthy ability.

Since 1960, the government has mounted a variety of programmes to solve the shortage of educational personnel. An early effort to staff primary schools consisted of drawing new teachers from the ranks of primary-school leavers, who in 1976 constituted over 51 percent of the nation's 22,000 primary teachers. The trend since 1970 has been to replace such personnel with untrained secondary-school leavers and to operate a correspondence course aimed at encouraging unqualified teachers to upgrade their skills.

By the early 1980s, Cameroon administered eight training colleges enrolling 2,000 students, with an annual output of about 300, far short of the annual need for 1,800 new teachers.

7. Educational Research

The three chief sources of research on education in Cameroon are (a) individual scholars in universities, principally in the United States, the United Kingdom, and France; (b) international organizations in cooperation with the Cameroon government; and (c) three educational research institutes within Cameroon. The three institutes demonstrate the government's faith in the use of research findings as a basis for policy decisions. But it will be some time before these organizations produce the type and volume of studies to justify such faith. Lack of trained personnel and insufficient funds are among the problems which have limited the impact of the institutes.

8. Major Problems

The demand for education at all levels far outstrips the supply, and the greatest problem for policy makers is to convince parents and youths that desired educational provisions cannot be offered to everyone. Thus, to of Education must carefully regulate the selection of candidates for schools at all levels.

A second problem is that of improving educational quality where there may be 100 children seeking to learn in a classroom although 50 pupils per class is the official standard. The problem of shortage of suitable books and equipment also needs to be solved if quality of learning is to be raised.

A third problem is that of funding. Even with 20 percent or more of the recurrent national budget dedicated to education, and with parents making great sacrifices to pay school expenses, funds are still short of what is needed.

But perhaps most difficult is the problem of language—the medium of instruction in the schools. At a time that many nations are adopting a native tongue for school instruction, Cameroon continues to use English and French. How to solve this problem, particularly when English and French are seen as necessary for continued socioeconomic development, is not yet clear.

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Canada

R. E. Blair

There is no such thing as "the Canadian educational system". Education is, by law, a provincial responsibility. Section 93 of the British North America Act (BNA) states: "In and for each province, the legislature may exclusively make laws in relation to education". Canada therefore has 12 educational systems, one for each of the 10 provinces, one for the Northwest Territories, and one for the Yukon Territory. Although the two territories are not constituted as provinces, the federal government has delegated somewhat similar powers with respect to education as those held by the provinces.

Geographically, Canada is the second largest country in the world, next only to the Soviet Union. By population, it is among the smallest, having only 24 million people in an area of 9,976,185 square kilometres (3,851,809 square miles). Campbell (1982) provided an almost poetic description of Canada when he wrote:

Extending 4,500 miles from east to west, its shores are washed by three oceans. A single electoral district, Nunatsiag, 860,000 square miles, extends through no fewer than four international time zones; another of two square miles, Laurier, serves 92,000. Immense inland plains, snow-bound mountains, vast expanses of tundra and rock verge on one another. Part of this land produces delicate fruits; others are eternally ice-bound. Well endowed with the resources the world needs, some of its regions are immensely rich while

others, their full potential undeveloped, are less well off. From its colonial beginnings, two language groups, French and English, have predominated. Yet it is today a land of many tongues, many colours, many proudly recollected ethnic histories. (Campbell 1982 p. 839)

Because of its immense size and the fact that education is a provincial responsibility, geography, politics, economics, and other factors have all influenced education in varying degrees. Gayfer (1978) wrote:

The education systems in the different provinces have much in common, although each has unique features. Diversity stems in part from the traditions and aspirations of the founding settlers in each province and from differences in economy, geography and size of population. Scottish educational practice (more so than English or American) had a strong early influence on English-speaking Canada while the traditions of education in France were followed in the French-speaking province of Quebec. (Gayfer 1978 p. 10)

A changing Canadian society has also influenced education in Canada. One hundred years ago, Canada was two-thirds rural. It is now two-thirds urban. Improved transportation and the new and constantly improving technologies have brought the country close to being able to truly offer equality in educational opportunities to all citizens.

In 1891, the then nine provinces (Newfoundland joined the Confederation in 1949) decided an organization was needed to facilitate sharing of information on educational concerns across Canada. The Dominion Education Association (now the Canadian Education Association) was then born and held its first conference in Montreal in 1892. But while the Canadian Education Association, and other educational organizations, have done much to provide for a sharing of information, which has led to the Canadian educational systems at least strongly resembling each other, families who move from province to province still complain that their children suffer, and often "lose a year" because of the great differences in the systems of education. There are no "national goals" for education in the country, nor is there a national standard curriculum.

A changing population is also influencing the educational systems in Canada. Figures released by Statistics Canada in July 1982 show that in Canada the proportion of older people is rapidly increasing. This trend strengthened between 1976 and 1981 due to an actual decline in the number of children being born. The postwar baby boom meant school systems across Canada had to deal with problems of rapid expansion in the 1950s and 1960s. Those were the years when a graduating teacher was as sure of a waiting job as a graduating computer-science student is in the 1980s. In the 1970s, the problem was, and still is in the 1980s, the reverse. Student enrolments have fallen and are still falling. The young people born during the postwar baby boom are now in their child-bearing years, but this group is reproducing at lower rates than its predecessors. As Statistics Canada says: "The recent widely discussed surge in the popularity of parenthood may be overstated. In 1981, the youngest age group, 4 and under, was 7.3 percent of the population, compared to 7.5 percent in 1976 and 8.4 in 1971 even though the proportion of young females of child-bearing age has actually increased during the period" (Statistics Canada 1982 p. 1).

At the other end of the life cycle, the group of 65 years of age and over increased by 17.9 percent between 1976 and 1981, representing 9.7 percent of Canada's total population in 1981, compared to 8.7 percent in 1976.

School boards across Canada have coped, and are coping, with declining enrolment in a number of ways. Many schools have been closed and teachers released from service. The usual procedure followed when teachers must be released due to an insufficient number of students is "last in, first out". This, of course, creates the problem of an ageing teaching population. To try to offset this, quite a few school systems have developed early-retirement programmes and various other incentives so that there will be room for some new, young teachers each year. Teaching positions are still, however, extremely scarce, with the exception of some isolated northern areas.

Canada has a mainly urban population. Immigrants,

many of whom do not have English as their first language, tend to settle in the large cities and this presents an additional set of problems for educators in Canadian cities. The city of Toronto, for example, has an elementary and secondary student enrolment of nearly 80,000 (it was 110,000 in 1970). Of the 80,000 students, fewer than 50 percent have English as a first language. Canada has chosen not to be a "melting pot" and so efforts, sometimes costly, are made by city systems for immigrant children to maintain their original culture and language.

The "role of the school" is a continuing topic of discussion across Canada. In a country that is suffering from high unemployment, and in the grips of a recession, some argue that schools should concentrate on training students for occupations that now, or will, lack skilled workers. Others say that, with technology and the type of skills required changing so rapidly, the best the school can do is provide a sound basic education and an incentive to students to continue learning long after their formal schooldays have ended.

In the 1960s, money was, if not in limitless supply, at least readily available from provincial treasuries for educational purposes. The economy as a whole was in good shape then, and experiment was the order of the day. New schools sprang up almost overnight, many with "open-area classrooms" that could accommodate up to 14 classes in one wide-open space. Carpeting was laid so that students could sit or lie comfortably on the floor while doing their lessons. Team teaching was introduced, along with new curricula and continuous progress so that each child could proceed at his or her own pace to "maximum potential" without fear of failure. Literally millions of dollars were spent on audiovisual aids, especially television sets and videotape recorders, and school libraries, now equipped with more than just mere books, became known as resource centres.

Also in the 1960s, the traditional requirement for high-school students to pass final examinations set by the provincial departments of education was discontinued in most provinces. Schools were now able to set and mark their own secondary-school graduation examinations. At about the same time, the number of options a secondary-school student could select through each year of school increased dramatically, with a corresponding decrease in the number of obligatory subjects.

With declining enrolments, a worsening economy, and some doubt (rightly or wrongly) about educational standards, provincial funds for educational systems became more difficult to obtain in the relatively large amounts that had been available in the 1960s. In the 1970s, perhaps in response to shrinking budgets, perhaps in response to public pressure on provincial and local politicians, walls began to appear in open-area schools, some options were dropped in secondary schools and, some subjects reinstated as obligatory.

Not until the economy improves will local school

jurisdictions be able to obtain the provincial funds they believe they need to maintain the high-quality educational systems that now exist. And even an upturn in the economy might not help very much. Parents with children in school are the strongest supporters of the school systems. As this group becomes smaller in relation to the total population, they will have less influence on the provincial politicians who control most of the money supply for education.

1. General Structure and Size of the Educational Effort

Within Canada there are elementary schools, secondary schools, special schools, private schools, community colleges, and universities. There is also schooling for Indians and Inuit, provided either in federal schools on reserves or in provincial schools with the cost being paid by the federal government.

The beginning age for school varies across the country, as does the transition from elementary to secondary school. Generally speaking, elementary school is for children aged 5 or 6 to 11 or 13, with secondary schools providing programmes for 12- or 14-year-olds to 18-year-olds.

The elementary school is usually designed to provide a basic learning in reading, writing, computation, science, social studies, music, and art. In recent years, there has been an increasing emphasis on Canadian studies, both at the elementary and secondary levels. This was probably a reaction to various surveys that indicated Canadian students had a much better knowledge of the history and current affairs of the United States than they did of the history and current affairs of their own country.

There are several different types of secondary school in Canada, though most are "composite" and offer a wide range of academic, business, and technical courses. In some of the larger cities, vocational and/or occupational secondary schools are available for the non-academically oriented student. With few exceptions, these lead directly to the world of work, while gradu-

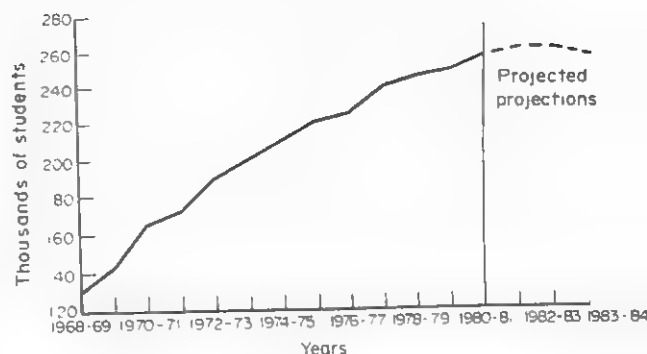


Figure 2
Full-time community college enrolment 1968/69–1983/84

ation from the composite schools may lead to employment, a community college, or to university. The enrolment figures for elementary and secondary school for 1968–69 to 1983–84 are shown in Fig. 1.

Community colleges, which are postsecondary non-degree-granting institutions, were first established in Canada in the late 1960s. The growth and popularity of these institutions (which naturally vary considerably in nature across the country) have been nothing short of phenomenal (see Fig. 2). According to Gayfer (1978),

In 1960–61, there were 29 institutions later categorized under the term "community college" with a student enrolment of 9,000, mostly in existing institutes of technology. The full-time enrolment in all post-secondary non-university institutions at that time—including teachers' colleges and hospital schools of nursing was 49,300.

By 1978 there were some 173 community colleges and related institutions (including hospital schools of nursing and teacher-training colleges) with an enrolment of about 247,000.

Data from Statistics Canada point out that less than one-third of the post-secondary growth is due to an increase in population. The main growth is due to increased participation. (Gayfer 1978 p. 29)

There are approximately 68 degree-granting universities in Canada. As is true with Canadian elementary and secondary school systems, geography, history, and the economy have had an influence on the development of the universities in the country. Most of the eastern universities, the first to appear, were founded by religious institutions while the western universities were established by provincial governments.

The question is sometimes raised as to how Canadian are Canadian universities. Certainly the western universities and Memorial University in Newfoundland were strongly influenced by the American state university, while others, especially those founded by religious institutions, were influenced by English and Scottish traditions. With regard to universities in Canada, Johnson (1968) wrote: "While acknowledging these European and American influences, no one could really mistake Canadian universities for either English,

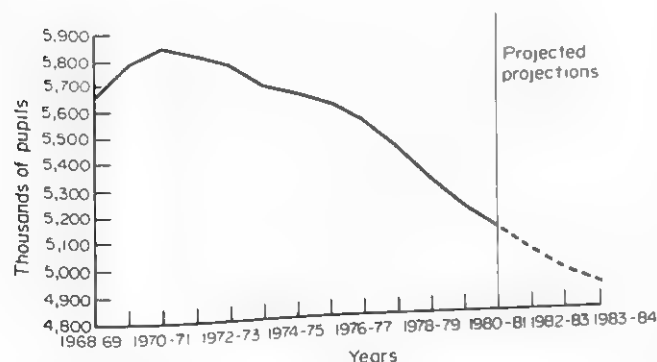


Figure 1
Total elementary and secondary school enrolment 1968/69–1983/84

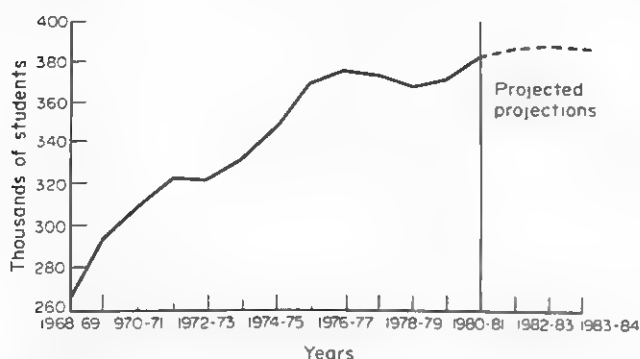


Figure 3
Total full-time university enrolment 1968/69–1983/84

American, or French. Perhaps their most Canadian quality is our propensity to borrow ideas wherever good ones were to be found. While the United States may point with pride to some of the finest universities in the world, it also has some of the poorest. Canada's are closer to a norm. We have no Harvard or MIT but for none of our institutions do we need to be overly apologetic" (Johnson 1968 p. 184).

In 1976–77, university enrolment as a percentage of the 18–24 age population was 19.8 percent; in 1960–61, it was 6.7 percent. In 1981–82, there were nearly 400,000 full-time graduates and undergraduates attending Canadian universities (see Fig. 3).

In 1977–78, some 5.4 million Canadians were enrolled in elementary and secondary schools; 246,980 were in nonuniversity postsecondary institutions; 390,000 undergraduate and graduate students were in universities; and more than one million adults were taking part-time credit and noncredit courses offered by a variety of educational institutions. Total enrolment in the 1977–78 Canadian educational enterprise was about one-third of the country's total population. The educational percentage of the gross national product (GNP) in 1977 was 7.9 percent, compared to 4.5 percent in the early 1960s.

School systems across the country, especially in the large urban areas, are continuing to experience a drop in full-time student enrolment. On the other hand, an increasing number of adults are taking part-time courses, some through school boards, some through community colleges, provincial correspondence schools, universities and other educational institutions, and museums and art galleries. Many return to school to upgrade themselves or train for another occupation, especially in the rapidly developing technological fields. Figures 1–4 present enrolment trends.

2. Administrative and Supervisory Structure and Operation

Because education is a provincial responsibility in Canada, the administrative and supervisory structure and operation varies somewhat across the country.

There are many commonalities, however, and probably the best general description is provided by Gayfer (1978):

The legal, administrative, and financial provision for public education from elementary school through university is the responsibility of the provincial government, not the local or municipal governments.

Education policies are determined through a minister of education and, in some provinces, a minister of post-secondary education, who are members of the Executive Council or Cabinet, designated to that portfolio by the premier of the province. The minister is directly responsible for the management and operation of the education system during his term of office, through the department of education (in some provinces called ministry of education). The policies and powers of the government are embodied in a school or education act (or acts) and university and college acts. Other duties and obligations derive from regulations made by the minister, which are concerned with subject matter covered more generally by an act. Regulations are intended to deal with details of the implementation of principles.

Generally, a department (or ministry) of education undertakes the supervision of teacher competency and the granting of teacher certificates; the evaluation of school programs; establishment of courses of study and prescription or approval of textbooks; provision of financial assistance; setting out of rules and regulations for the guidance of trustees and education officials of school boards; and generally delineating the duties of school principals and teachers. (Gayfer 1978 p. 13)

The provinces delegate certain powers and duties to the trustees (in most cases elected) of school boards. The boards are generally responsible for, among other things, school buildings and maintenance; the hiring, promotion, and dismissal of teachers; and instruction and curriculum design. Other duties and responsibilities are in turn assigned by school boards to senior professional administrative staff.

3. Finance

In 1950, total expenditures on education as a percentage of GNP were 2.4 percent. In 1960, the percentage was 4.5. It rose to slightly over 6 percent in 1965, and

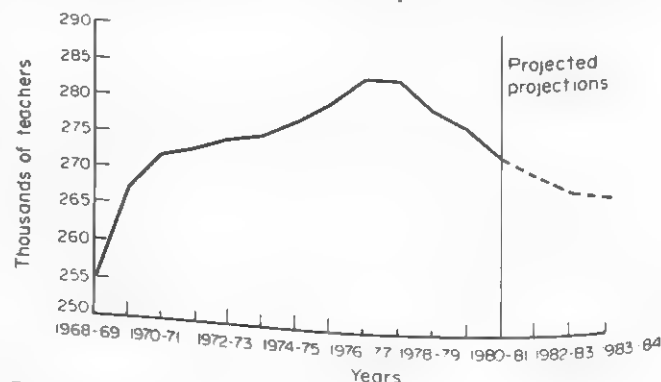


Figure 4
Full-time elementary and secondary school teachers 1968/69–1983/84

reached an all-time high of 9 percent in 1970. By 1975, it had dropped to 7.9 percent and in 1979 it was 7.7 percent. Expressed as a percentage of total government expenditures, in 1969 education accounted for 22 percent. Ten years later the percentage had dropped to 17 percent. During the same period, 1969-79, expenditures on social welfare rose from 18 to 23 percent.

In 1981-82, Canada spent over Canadian \$25.5 billion on education. The sources of funds were: provincial and territorial governments (66 percent); local taxation (19 percent); federal government (8 percent); and non-government (private) sources (7 percent). The money was spent as follows: elementary-secondary education (68 percent); universities (19 percent); vocational training (5 percent); and community colleges (8 percent).

4. Supply of Personnel (Including Teacher Education)

Supplying personnel for Canada's educational systems in the 1960s was a problem. There were more teaching jobs available than there were qualified Canadians to fill them, and so many school boards recruited staff from outside the country as their school systems entered a period of unprecedented growth, due largely to the postwar baby boom.

In the early 1970s, the bubble burst. The twin effects of declining enrolments and relatively less money for education sent school systems into a period of retraction. Graduates from teacher-training institutions found few jobs available, especially in the popular urban areas.

With the demand for new teachers lessening each year, fewer students are entering teacher-training institutions. In 1975-76, the full-time undergraduate enrolment in education was 45,118. In 1980-81, it was only 36,382, a drop of 19 percent. There were some 283,000 full-time elementary and secondary teachers in Canadian schools during 1977-78. In 1980-81, there were 273,700 and the projection for 1983-84 was about 268,000 (see Fig. 2).

Virtually all students now entering the teaching profession take their training at a faculty of education within a university. Only one province, Nova Scotia, still operates a teachers' college independent of the university structure.

There are still more women teachers than men, though the proportion is changing. In 1970-71, women constituted 62 percent of the teaching force but in 1980-81, only 56 percent. In nine provinces (data were not available for one province) and the two territories, 69 percent of public elementary-school teachers held a university degree in 1980-81, compared to only 35 percent in 1972-73. At the secondary level, 89 percent held degrees in 1980-81, an increase of 8 percent since 1972-73. As mentioned earlier, Canada has an ageing teaching profession. In 1972-73, 17 percent of teachers were under 25 years of age and 44 percent under 30. By 1979-80, these figures had fallen to 4 and 23 percent

respectively. In 1980-81, the average age of an elementary teacher was 37, and of a secondary teacher, 39.

In spite of the tight job situation, large numbers of students, though not as many as a few years ago, continue to set their sights on teaching as a career. In 1969-70, education accounted for the largest group of male university graduates (16 percent), followed by engineering (11 percent) and business (7 percent). Education had slipped a little by 1980 but only to third place (12 percent), exceeded by business (14 percent) and engineering and applied sciences (15 percent). For women, education remains the top choice, accounting for 27 percent of female graduates in 1980, well ahead of the next two most common fields for women, languages (8 percent) and psychology (7 percent).

In his book on teacher redundancy, titled *Too Few Apples*, Chamberlain (1980) is somewhat critical of faculties of education. He writes:

Despite an excess supply of teachers in some disciplines, universities continue to train and graduate students in over-staffed subjects, and some graduates continue to complain of receiving no career counselling while attending faculties of education. Some universities are changing course content in response to a changing market for teachers, but the modifications are not thorough. In some cases, the number of specialities offered students has increased, and advice is given on which speciality is marketable and which is not. But there is little known "ear-marking" of faculty of education enrolments; the choice of majors and minors still remains with the student. And universities have admitted that students continue to choose course majors and minors that bear no relation to the market realities described to them by faculty staff. Democratic though this policy may be, it is of little benefit either to teachers already employed, to school boards in search of instructors of speciality subjects such as music, arts, and hard sciences, or the graduates. (Chamberlain 1980 p. 85)

Constant efforts are made to improve the quality of education throughout Canada. There are many forms of inservice professional training for certificated teachers offered through summer courses organized by provincial ministries/departments of education, school boards, or faculties of education. Courses and workshops are also available through teachers' associations and associations of educational and administrative officials.

Teachers who wish to move through the ranks of department head, vice principal, principal, and senior administrator in a school-board office find it is many years before they can enjoy a full summer holiday, the usual time for taking professionally upgrading courses.

Declining enrolment and a poor economy have resulted in few, if any, new senior administrative positions coming into being. On the other hand, various incentives for early retirement are having the desired effect, and so generally speaking there is still room at the top for the talented and ambitious teacher who is willing to raise his or her qualifications through the numerous summer, evening, and weekend courses available. As well, a number of school boards now hire senior staff on a term-contract basis which creates a

more frequent turnover of senior personnel than would otherwise be the case.

5. Curriculum Development and Teaching Methodology

For a brief, general description of curriculum development across Canada, Gayfer (1978) is probably the best source:

The ministry of education is responsible for describing and prescribing courses of study which set out the content of the school program and the overall sequence in which it is taught. The minister authorizes subjects which are to be compulsory. (In Ontario and British Columbia a "core" curriculum was introduced in 1977. For example, Ontario's core of compulsory subjects in the first two years of secondary education is composed of English, mathematics, science and Canadian history or geography.) A wide variety of optional or elective courses (from languages to environmental studies) are also offered. Many departments of education issue curriculum guidelines which are authorized statements of a general nature outlining the course content. It is the responsibility of the supervisory officers of a school board to see that particular courses of study are designed within the rationale of the philosophy and approach outlined in the guidelines. Principals also share in this duty.

In most provinces, it is the intent of current policy that teachers, preferably in the setting of the school staff, take an active role in designing the courses they teach. The participation of students, especially at senior levels, is also encouraged. For new courses, school boards must seek approval from the minister. A new course is usually introduced at one or a few schools before a ministerial decision is made on its province-wide application. (Gayfer 1978 p. 18)

There is no uniform, nationwide curriculum in Canada, and even within provinces there are many differences among school systems as to how departmental guidelines are interpreted and implemented. With some understanding of this vast country, it can be readily understood why there is no national curriculum.

Probably all good teachers have always recognized the fact that each child has his or her own interests, problems, and pace in learning, and that not all students react well to one particular teaching method. The discovery method became popular in science classes in the 1960s. This method requires students to conduct experiments themselves to find answers to problems, rather than be told or shown by demonstration. Team teaching, especially at the elementary level and in open-area schools, is still practised; generally, good results are claimed by the users. Audiovisual aids are in widespread use and have been for some time. As the new technology develops and becomes less expensive, no doubt computer-assisted learning will become a common part of teaching methodology. Canada's pioneering efforts in distance learning with the use of satellites and microcomputers has already attracted international attention.

Although still practised by some teachers in elementary and secondary schools, the "lecture" method is

probably employed by fewer teachers now than ever before.

In Canada, parents who move from one province to another would say that the chief problem with curricula is that it is not the same in every province. Educators would respond by saying that at least some of the curricula used in a Newfoundland outport school would not be relevant to a student in Winnipeg, Manitoba, and vice versa.

6. Examinations, Promotion, and Certification

Until the 1960s, in most cases the only way a student could graduate from high school was by passing a set of "departmental exams". These examinations, compulsory and identical provincewide for every candidate graduate, became the object of much criticism during the 1960s. Opponents of provincial examinations argued that some capable students who had performed well all through elementary and secondary school would "freeze" during final provincial examinations and fail, whereas other, less capable students, would cram, pass, and immediately forget everything they had memorized during the few days before the exams. The argument was also put forward that teachers of graduating classes had to teach for provincial examinations, concentrating on topics that might not be relevant to students in their particular region, but that nevertheless were likely to appear in the final examination.

Provincial ministries/departments of education gradually withdrew completely, or lessened considerably, the influence provincial examinations had on students' graduation chances. In most cases now, it is classroom teachers and principals who determine whether or not a student will graduate from secondary school. Their judgments are based on overall school performance, including local school examinations and tests.

It is unlikely there will ever be a complete return to provincial graduation examinations as they were 20 years ago, but several provinces now have provincial achievement tests that are intended to set durable provincial achievement standards.

7. Educational Research

An excerpt from a 1981 report, "Canadian Research in Education: A State of the Art Review" (Andrews and Rogers 1981) provides a brief description of the evolution of educational research in Canada:

In Canada it has been traditional for secondary school teachers to be trained at universities. Thus there have been university faculty members representing the field of education from the earliest times. Indeed, it is reported that the first doctorate awarded by the University of Toronto in any field was in education. The number of professors of education was small, however, and most were formerly eminent educators from the school systems who were appointed for their practical experience and wisdom rather than for their scholarship. Each professor was a generalist.

Although different courses were offered, many would usually be taught by the same professor. Indeed, in the smaller universities a single professor would teach all subjects.

These conditions prevailed in most part of Canada until less than 20 years ago. Since then, such dramatic growth has taken place that education in all sizeable universities is organized as a separate faculty and in most universities is one of the larger faculties on campus. Many factors have accounted for this almost revolutionary growth. Of these, probably the most important were the development of teaching as an organized profession and the assimilation by the universities of the function and, in most cases, the staff of the normal schools. Teacher training was thus consolidated within the university for both elementary and secondary teachers. This movement, which began in Western Canada in the 1950s had spread throughout Canada by the end of the 1960s.

Following amalgamation there ensued in each university a traumatic but zesty period of confrontation and integration as the strong practical traditions of the normal schools were challenged on every front by the scholarly values and practices of the university. At the risk of over-idealizing the union, at its best it embodies a fusion of theory and practice which sets it somewhat apart from the exclusive focus upon knowledge which typifies the training of professionals in most other fields in the university. Education stands virtually alone in combining in its undergraduate programs coursework, which establishes a professional knowledge base, with an extensive practicum, in which real schools are used as laboratories. (Andrews and Rogers 1981 p. 2-2)

Since the 1960s, probably more has been written on French-language instruction (including immersion, semi-immersion, and bilingual classes) than on any other topic in education. Apart from this, there was a great deal of educational research in the 1960s and early 1970s in the areas of teaching strategies and school environment. For reasons that are obvious from a reading of other parts of this article, the late 1970s and early 1980s have seen much educational research devoted to declining enrolment and lifelong education, and no doubt these topics will continue to be popular for some time to come.

8. Major Problems

Declining enrolments and tight budgets will continue to be problems for school systems throughout the 1980s. If those who forecast an upturn in the economy and a renewed interest on the part of young people in having children are right, then these problems may not last much longer. Actually, the two problems may be closely related. If Canadians have one thing in common with each other, it is the desire to own a home. With present prices and mortgage rates, there are few young couples who can afford to purchase a house without both husband and wife working full-time; a child would be an added expense that many feel they cannot afford. If the economy improves and home ownership becomes easier, it may be that a good many of those who claim

to want children "when they can afford it" will in fact begin to reproduce.

The newest challenge that school systems are experiencing, and are likely to experience for years to come, is the impact of high technology on education. It seems likely that the structure of educational systems will have to change if it is true, as some experts state, that computer-assisted learning will result in 25 months of conventional learning being condensed into 7 months. Each child will be able to work at his or her own speed, meaning there will be wide differences in the amount of time it will take students to cover any particular course of study.

According to Emery (1982), computerized education, and more specifically computer-assisted learning, will not put teachers out of business. Emery divides education into three steps: the acquisition of information, knowledge, and wisdom. Our present educational system requires a great deal of time to be spent on the acquisition of information, leaving very little time for the transmission of knowledge and wisdom. If computerized education can shorten by such a large amount (25 months to 7 months) the time it takes to acquire information, then teachers should be able to lead students into knowledge and wisdom. Emery (1982 p. 30) wrote: "The real learning which is the joy of teaching . . . is the development of the mind to the point of acquiring wisdom. This part of learning will need a trained and gifted teacher interacting with a student."

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Central African Republic

S. S. McIntyre

The Central African Republic is a nation of approximately 623,000 square kilometers (240,540 square miles) located in the central region of Africa. Landlocked, it is surrounded by Chad, the Sudan, Congo, Zaire, and Cameroon. Topographically, the country lies on a high plateau, which serves as the watershed between Lake Chad and the Congo River basins. This area includes a system of inland waterways, which is important for transportation, commerce, and communications. Important river ports include the one at the nation's capital, Bangui, and those at Salo and Nola. The central plains rise to mountainous areas, including the Massif du Tondou and the Chaîne des Mongos in the east and northeast and the Monts Karre in the west.

The nation is lightly populated and much of the population lives in the western part of the country. A 1980 estimate gives a population total of 2,221,000, with United Nations estimates showing an annual birth rate of 44.3 per 1,000 persons in 1975-80 and an annual death rate of 22.5 per 1,000 during the same period (Europa 1982). In 1972, the infant mortality rate was reported to be 190 per 1,000, and 41.5 percent of the population was said to be under the age of 15. The urban population accounted for 23.8 percent of the national population (International Planned Parenthood Federation 1972). The population includes a variety of ethnic groups. The largest are the Banda and the Baya, followed in number by the Mandjia, the Ubangi, the Sara, the Mboum, the Fertit, the nomadic Bororo-Fulani, and the Pygmies. A number of Europeans, mainly of French nationality, are concentrated around Bangui. French serves as the official language and Sangha is the national language. Some 60 percent of the population have traditional (mainly animist) beliefs, 20 percent are Roman Catholic, 15 percent are Protestant, and 5 percent are Moslem.

In 1969, the per capita gross national product was estimated at US\$130. A majority of the populace is employed within the agricultural sector; much of agri-

cultural production is at subsistence level. According to a 1971 estimate, 475 per 1,000 persons are employed in agriculture, forestry, and mining; 52 in manufacturing, industry, and construction; 32 in commerce, transport, and other services; and 7.2 in administration; 43.5 percent are unemployed (Europa 1982). The main export crops are cotton and coffee; groundnuts are an important food crop. There is some timber production, originating in the forested area of the southwest. Minerals include diamonds, and there is a possibility of substantial uranium production.

Transportation is one of the main problems confronting economic development. There is a fairly extensive road network, but it has not been well maintained. Due to seasonal factors the roads are only dependable at certain times during the year. The major source of transportation is the river system, especially the stretch of the Ubangi River which flows between Bangui and Brazzaville, Congo. There is a proposal for a Bangui-Yaoundé railway, and air transportation is facilitated by the major airport at Bangui and several smaller ones. The most widespread means of internal communication is radio. In 1970, there were an estimated 52.5 radio sets per 1,000 persons, as contrasted with 0.6 copies of newspapers per 1,000 in 1967 (International Planned Parenthood Federation 1972).

Internal political events have hindered the pursuit of long-range developmental goals. The Central African Republic gained its republican status in 1958, after 50 years of French colonial rule. In March 1959, the head of government, Barthélemy Boganda, was reported missing following an airplane crash. In May, the Assembly elected David Dacko as Boganda's replacement. On 13 August 1960, the Central African Republic gained official independence from France. By 1972, the Constitution had been amended; Colonel Jean-Bedel Bokassa had become president for life. In 1976, the title of republic was replaced by that of empire, and Bokassa had become emperor. In 1977, American aid to the Central African Empire was terminated; in January

Table 1
Student enrolment by level from 1962-63 to 1975-76

	1962-63	1965-66	1968-69	1970-71	1975-76
Primary	87,570	128,436	156,178	176,300	221,412
Secondary	2,402	3,866	7,282	9,691	21,509
Vocational	536	849	N.A.	1,363	1,771
Teacher training	342	465	N.A.	225	615
Higher education				88	318 ^a
Total	90,850	133,616	(163,460)	187,667	245,625

^a 1974

1979, there were student and teacher riots, and in April of the same year, there was a massacre of 100 children—an event which came to be directly associated with Bokassa's rule. In August 1979, the French suspended all aid to the Central African Empire, excepting that which was given directly for the purpose of supporting the health and education of the people. Finally, in 1979, French soldiers took control of Bangui, and Bokassa found himself in exile in the Ivory Coast (Kalck 1980). David Dacko returned as the president of the republic, and opposition arising from students' dissatisfaction with the retention of Central African Empire ministers caused Dacko to reorganize the government. In September 1980, a new government was created under the direction of Jean-Pierre Lebouder, the former minister of planning. In February 1981, a new Constitution was created, and in March elections took place which confirmed Dacko as president. However, civil unrest and political opposition grew within the Republic, and on 1 September a bloodless coup led by General André Kolingba deposed President Dacko.

The legislative and executive activities of the Republic became the responsibility of a military committee (the *Comité Militaire pour le Redressement National*). The 1980–81 *Plan de Redressement* stipulated that 98,000 million francs CFA be spent in line with the primary national goals of strengthening the agricultural sector and the infrastructure.

1. Educational Background

Formal education was introduced into the area of what is now the Central African Republic with the advent of colonial and missionary activities. Since Europeans reached the central territory somewhat later than they did the coastal areas, education in the Central African Republic area was slow in developing. Two types of schooling were developed during the first years of the twentieth century: schools administered by the colonial government and offering professional training to the sons of indigenous rulers, and schools administered by the missions. Both types of educational activity were limited. This was especially true in the interior, which was not readily accessible.

The goal, set in 1935, of at least one school in each administrative department was achieved by 1950; in 1953, the first secondary school was founded. During the late 1950s and the early 1960s, one of the main aims of the republic was to increase school attendance, especially in the rural areas. School services were expanded and busing was provided for the transportation of students (Roucek 1970). As may be seen in Table 1, the total number of primary, secondary, vocational, and teacher-training students increased from 90,850 in 1962–63 to 133,616 in 1965–66. This represents a rise of 47 percent. Thus, between 1935 and 1970, the Republic witnessed a period of rapid educational growth.

2. Structure of the Educational System

The basic structure of the educational system consists of a six-year primary school, a four-year junior-secondary school, a three-year senior-secondary level, and university education. Young children may enter nursery or kindergarten education after age 4. Attendance is compulsory between the ages of 6 and 14. By 1977, 77 percent of primary-school-age children were enrolled (100 percent of males, 54 percent of females). In the same year, 44 percent of youths of secondary-school age were in school (59 percent of males and 30 percent of females). In 1978, 0.7 percent of university-age men and women were enrolled in higher education programs (1.3 of males and 0.1 of females) (UNESCO 1981 pp. III:16, III:30).

With independence came the need to bring the system of education into close coordination with national goals. In 1962, all private schools were integrated into the national educational system and brought under government control. The development of educational institutions has been motivated by the national need for trained personnel. In 1971, it was estimated that personnel requirements would include the need for: (a) 100 newly trained workers per year in the private sector to maintain positions already in existence; (b) 600 trained workers to fill new positions created by new industries developed under the four-year plan; and (c) an average of over 150 trained officials per year for a period of five years in order to replace positions in the public and private sectors filled by foreigners (UNESCO 1971).

The national requirements made the development of vocational, technical, and higher education institutions a priority. In 1967, the University of Bangui was founded, with the name then of its founder, Jean-Bedel Bokassa. In 1970–71, there were 88 students in higher education and by 1974 there were 318.

By 1970, various training, technical, and vocational courses were available through programs administered by the Ministry of National Education, the Ministry of Labor, the ministries responsible for public works and for communications, and various organizations for bilateral and multilateral foreign aid. A complete listing and comprehensive description of the programs is available in the "Feasibility Survey of the Regional Development of Rapid Vocational Training" (Organization for Rehabilitation through Training 1970).

From 1963 to 1977, between 12.7 and 15.5 percent of the state budget was allocated to education.

3. Teachers and Teacher Education

By 1976, there were 3,329 primary-school teachers, 515 secondary-school teachers, and 47 teacher-training staff. It is estimated that there were about 150 teachers in vocational schools.

Teacher training takes place at the secondary level for teachers of primary education. Lower-secondary teachers attend the teacher-training college in

Brazzaville, Congo. Upper-secondary teachers graduate from the advanced teacher-training college in Bangui and receive the *Certificat d'aptitude professionnelle* or a diploma after the successful completion of a four-year program.

In addition to the advanced teacher-training college, higher education institutions include the national school of administration and the university, which comprises faculties of art, law, economics, and science. By the mid-1970s, there were four university institutes: of mining and geology, of agricultural technology, of mathematical studies and research, and for higher education. Higher education proceeds in two stages. The first phase, lasting two years, leads to the *diplôme universitaire* in humanities, science, law, or economics. It may also lead to the *capacité en droit* in the case of non-baccalauréat holders. The second phase, also lasting two years, leads to a *licence* (UNESCO 1976).

4. Examinations

Entrance into secondary-level education is contingent upon successful completion of the *Brevet d'Etudes du Premier Cycle*. Entrance into the technical and vocational programs varies in accordance with the demands of the program. The advanced teacher-training program requires a *baccalauréat* or success in a special examination, which takes place at the end of the first year of study. University admission requires a *baccalauréat* or success in an equivalent entrance examination.

5. Major Problems

In spite of promising advances, including the expansion of the educational system, the formulation of educational goals which are in agreement with national goals, and the development of a comprehensive range of educational opportunities, problems continue to exist.

The availability of personnel and materials is limited. Much of the available curriculum is derived from the French system, though efforts are being made to adapt it to the goals of the nation's system of education. French remains the language of instruction, and many of the instructors are of French nationality (Central African Republic British Council 1975). As increasing numbers of the indigenous population are educated within the nation's system, these problems may become less acute.

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Chad

B-R. Miaro-II

The Republic of Chad is located in north-central Africa. Covering an area of 1,284,000 square kilometers (495,752 square miles) it borders on the Central African Republic, the Sudan, Libya, Niger, Nigeria, and Cameroon. It has three geographic areas representing distinctive climates: the savannah in the south, the Sahel in the center, and the desert in the north. Each zone has also its representative economic activities, agriculture in the savannah and livestock in the Sahel.

Chad is sparsely populated. Its population was estimated to be 4.3 million in mid-1980 and its annual population growth rate is estimated at 2 percent. The birth rate of 4.4 percent is largely counterbalanced by

a juvenile mortality rate of 3 percent. The population density is less than 4 persons per square kilometer. The population density in the savannah is higher (16-22 per square kilometer) than in the Sahel and in the desert (less than 2 persons per square kilometer).

Chad is a former French colony. It acceded to political sovereignty in 1960 under the leadership of Ngarta Tombalbaye. In 1975, a military coup put an end to the 15-year regime of Tombalbaye. When, in February 1979, the tension between political groups grew and broke into a two-year civil war (1979-80), most schools in the central and northern parts of the territory were closed.

In 1978, Chad's per capita income was estimated at US\$140—among the 10 lowest in the world. Food production and major industries such as textiles and breweries, based in the south of the country, do not meet consumer demand. Cotton, an important export product (claiming 70 percent of export earnings in 1970), is an unreliable source of income in the world market due to the fluctuating price of raw materials. About one-third of the livestock (4.7 million head of cattle, 5 million sheep, and 330,000 camels), an important income source for the center and the north of the country, was decimated during the 1967–73 drought. Petroleum discovered near Lake Chad and in the Logone Valley is not yet in production.

The social situation has not improved since independence. The adult illiteracy rate is high (85 percent). The creation of new jobs has been held up by economic stagnation. The school system inherited from the French colonial administration is still very selective and has not been adapted to new conditions. Most of the existing school programs do not fit the country's economic needs for practical and technical skills in engineering and agriculture. School graduates who leave school in the rural areas and go to the cities in search of employment contribute to the high unemployment in urban communities.

Chad's educational structure includes African, Arabic (madersas), and French systems. Although African and Arabic socialization processes are still important elements of local traditions and cultures, more and more people, including political leaders, consider the retention of the Western model of education, established during the first quarter of the century by Christian missionaries and the French colonial administration, necessary in building national unity and in modernizing the country. As a result, the French system was extended after independence.

1. Structure of the Educational System

Reflecting the French educational structure, Chad's formal educational system, summarized in Fig. 1, includes the provision of primary, secondary, and higher education. Institutions preceding primary education are not yet integrated in the official school system. Primary education lasts for six years, with pupils entering at any time between the ages of 6 and 8. To enter secondary education, pupils must be between the ages of 10 and 15 and have succeeded in the *concours d'entrée en sixième*, a highly selective examination. Primary-school graduates too old to enter secondary education usually take the *certificat d'études primaires* examination in order to obtain a school-leaving certificate. Secondary education is made up of a first cycle of four years and a second cycle of three years. The first cycle is terminated by the *brevet d'études du premier cycle* (BEPC) and the second cycle by the *baccalauréat*. Three years of third-level education (university) leads to the *licence* and one or two years more to a master's degree

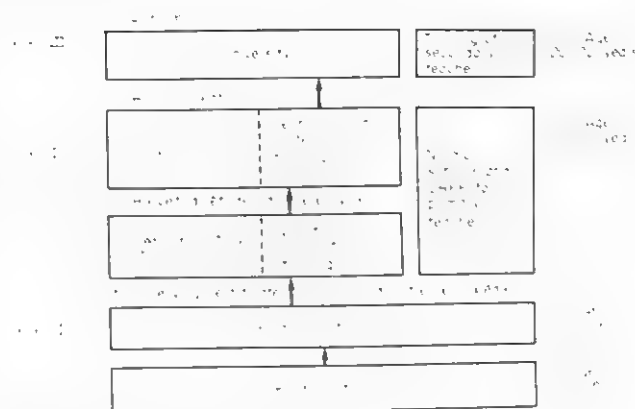


Figure 1
Structure of educational system^a

^a The size of the boxes is not representative of the size of the enrollment at each level

(*maîtrise*). The *doctorat du 3^{ème} cycle* is awarded to candidates who present a thesis corresponding to two or three years of research work after a master's degree.

Attempts under Tombalbaye's regime (1960–75) to mobilize politically the unschooled youth (Ayalon 1964) and to diffuse basic agricultural knowledge and techniques among rural populations (the *Bureau de Développement et de Production Agricole* project in the Mandoul Valley) through adult and nonformal education were not very successful for at least two reasons. Firstly, there was neither a clear ideological orientation to motivate people and to maintain momentum nor a consistent development policy behind these programs. Secondly, most of the programs applied to adult rural populations pedagogical and teaching methods that were designed for formal education in urban areas. The *Centres de Formation professionnelle agricole* (CFPA, vocational farming training centers) and the *Centres régionaux de Perfectionnement pédagogique* (CRPP, regional teacher inservice training centers) are, however, exceptions. Both these organizations were created in 1966 under loan agreements with France, the Federal Republic of Germany, Switzerland, or the UN.

In 1975–76, the CFPA had 30 training centers scattered in the southern cotton zone, one center in Kanem and one in Ouaddai (in central Chad). In total, 2,000 peasants received the CFPA 6- to 12-month training between 1966 and 1976. The trainees were young peasant couples selected by their villages. After they had completed their course in functional literacy and had improved their skills in farming, they returned to their communities and put into practice what they had learned.

The CRPP were organized as subsections of normal schools; the five CRPP designed and implemented two-month refresher and upgrading courses for teachers during the first decade after their creation. In 1976, all primary teachers (about 2,600) had benefitted from the program which was then extended to 20 pilot primary schools created in the framework of the reform of the

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Chile

C. Rodríguez

Chile has been an independent republic since the beginning of the nineteenth century. It extends along the southwestern coast of South America, stretching on average 4,300 kilometers north to south and only 180 kilometers east to west, Antarctic territories excluded. It is a very mountainous country, with plains occupying only about 20 percent of the country, and one of extreme geographic contrasts: a desert covers about one-third of the territory in the north and broken coasts with deep channels and fjords occupy another third of the country in the south. These features give rise to a very uneven distribution of population and a concentration of population in the central zone, which has traditionally absorbed about 90 percent of the total number of inhabitants and also contains the most important agricultural, industrial, and cultural centers.

The size and shape of the country have remained virtually unchanged since the end of the nineteenth century. Despite the geographical contrasts, and their effects upon the way of life of the people, the population is highly homogeneous so far as ethnic background and language are concerned. This is due to a successful process of integration of the native inhabitants with their Spanish conquerors, starting in the sixteenth century, and later on, with groups of immigrants of European origin.

The implications of these geographical characteristics for the educational system bear both on administrative

and curricular matters. On the administrative side, the difficulties in communication and the isolation of the regions in both extremes of the country, as well as of those zones located in the mountains, make the administration of the system particularly complicated. As far as curricular aspects are concerned, the difficulty lies in the fact that the system has to reconcile the cultural unity of the nation with the diversity existing in the different regions.

The population of Chile has increased at an accelerated rate: it doubled in the 55 years between 1865 and 1920 and it doubled again in the following 40 years (1920-60). The growth was less marked between 1960 and 1980. During this period, it increased from 8,900,000 to 11,400,000, and in the early 1980s the growth rate was only 1.5 percent. These 11 million people had a per capita gross national product (GNP) of approximately US\$1,800 in 1985. The annual growth rate of GNP was 2.4 percent in that year. The export: import ratio of US\$2,962.9 million: \$3,721.9 million was an additional indicator of the economic situation prevailing in the country in 1985. Due to migration from rural areas, the percentage of persons living in towns has increased from 46.2 percent in 1920 to an estimated 81 percent in 1980.

Given that one-third of the population is aged under 15, economically active persons have represented between 30 and 35 percent of the total population in the

40 years to 1980, but their distribution in the different sectors of the Chilean economy has varied substantially over this period. Whereas the percentage of individuals engaged in the secondary sector (industry) has remained fairly stable, at around 20 percent of the total active population, the tertiary sector (services) has increased its weight at the expense of agriculture and mining (the primary sector): it represented 35 percent in 1940 and 65 percent in 1980; the primary sector has decreased from 43 to 18 percent in the same period.

The occupational structure of the population has varied concomitantly and while the percentage of professionals and technicians, as well as manual workers, has remained fairly stable, the proportion of salespersons and office employees has grown from 14 percent in 1960 to 27 percent in 1980 and the percentage of fishermen, miners, and agricultural workers has decreased from 29 percent in 1960 to 17 percent in 1980.

From the point of view of the geographical distribution of economic activities, there have been no important modifications in the 1960s and 1970s. The metropolitan region, where the capital Santiago is located, continues to be the development center of the country, contributing more than one-third of those active in the tertiary sector, which is the sector with the highest productivity. This excessive centralism has traditionally posed serious problems, since it has brought about not only a concentration of economic activities, but also disparities in per capita social investment, thus limiting the economic growth of many regions. A key element of the present development strategy is therefore the regionalization of the country. Twelve regions, plus a metropolitan area, have been delimited since 1974, each with its own administrative system and also with autonomy in decision making. These changes in the administration of the nation have been defined in accordance with the subsidiary role that the state has adopted since the mid-1970s. In contrast to the period 1930-70, which showed an increasing intervention of the state in the economy, the role of the state at present is to carry out only those functions which cannot be performed by the private sector, either because of their nature or because of their interdependence with other functions.

The stated objectives of this development strategy are mainly to reach a steady economic growth and to facilitate social development in concordance with economic growth. Several factors have been identified as being important for the achievement of these goals and, among them, the improvement of human capital is considered to be essential. The new educational policies include changes in the regular system and also in adult education for the provision of vocational qualification. Educational administration is becoming more decentralized. A curriculum reform is being implemented and new study plans and programs were introduced in 1980 in primary education and in 1983 at the secondary level.

1. Goals of the Educational System

The main goals of the educational system have remained fairly stable at least since the 1920s. Traditionally, the state has emphasized equal opportunity of access to education for all citizens, mainly in order to lower the percentage of illiteracy (28.8 percent in 1940, 11.7 percent in 1970, and 6.8 percent in 1984) and to ensure that everybody completes primary education. Presently, priority is still given to primary education to ensure that all Chileans complete at least this level of schooling. In addition, the education effort is oriented towards preschool education and towards broadening the possibilities of obtaining a specialized training, either through postprimary qualification programs or studies at the tertiary level.

2. Structure of the Educational System

The structure of the regular educational system in 1980 has existed in its main features since 1966 and includes 6 years of preprimary schooling (ages 0 to 6), divided into three levels: nursery, middle level, and transition; 8 years of compulsory primary school, in which the first 4 years use a global methodology; 4 years of secondary school, with two branches: academic and vocational, both with equal right of access to the university; and 3 to 7 years of higher education, which were until 1980 the responsibility of Chile's eight universities.

During the 1980s, a new structure is being implemented. The main differences with the one previously described are found in the postprimary alternatives planned, which will be more varied and more appropriate to the needs of the labor market, and, most importantly, at the secondary and tertiary levels of the system. Secondary education will no longer be divided into academic and vocational but there will be one cycle of two years of general secondary (grades 9 and 10), after which students will choose between another cycle of two more years of general secondary education or vocational training, left in private hands. As for higher education, the modifications had already been put into practice in 1981. Universities are no longer the sole bodies offering professional training, but other educational institutions may do so too, with the exception of 12 careers (leading to traditional professions such as law, medicine, architecture, and engineering) which can only be taught by universities. Several new universities were created in 1981, based upon the provincial campuses of existing ones.

The number of students enrolled in the system increased steadily from 1940 to 1985, but the more accelerated rates have occurred in different periods in the four levels defined (see Figs. 1, 2, 3). Thus, the largest increase in primary enrollment took place between 1960 and 1965, in secondary enrollment, between 1965 and 1970, and at the university level, between 1970 and 1975. The slight decrease in primary enrollment observed in 1975-85 is due to external

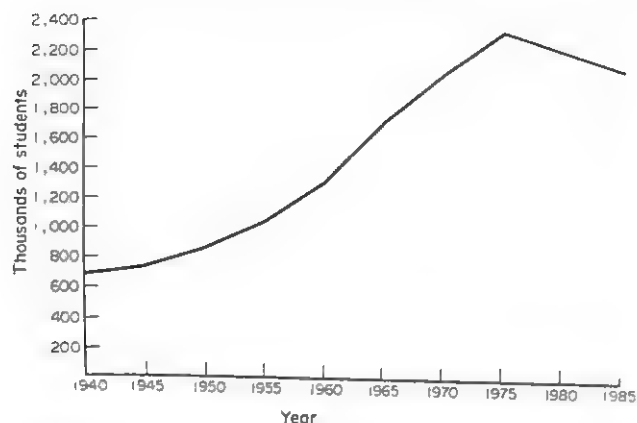


Figure 1

Primary-school enrollment 1940-85^a

a Data grouped according to the structure of the system in 1980

factors, mainly to a decreasing birth rate. Preprimary schooling, even if the number of children enrolled has increased from about 5,000 in 1940 to 221,812 in 1984, still absorbs only a limited proportion of the children aged 0 to 6.

As for retentivity, in 1970 the educational system absorbed 94 percent of children aged 7 to 14, 60 percent of 15- to 16-year-old students, and 32 percent of the population aged 17-18. The equivalent percentages had been 71, 28, and 12 percent 17 years before.

In 1970, 114 percent of the relevant age group was enrolled in primary school. Pedagogical retardation is a serious problem in Chilean education, caused, among other factors, by grade repeating. Already in grade 1, this phenomenon affected 32 percent of the children enrolled in 1970, and it became more severe in grades 5 and 6, which matriculated 47 percent of children who were one or more years older than the modal age for those grades. Even though high, these percentages represent an improvement in the situation of two decades before, when the figure was already above 60 percent in grade 1.

Educational opportunities for males and females have traditionally been equal in Chile. The proportion of boys was slightly the higher in primary school (52 percent in 1980) and that of girls the higher at the secondary level (53 percent in 1980), mainly in the academic track, where the female percentage was 56 in 1980. At university, the situation, which was definitively more favorable for males in 1940 (who then represented 75 percent of the total enrollment), has changed, and in 1980 some 59 percent of students were male.

In nonformal education, action has been rather limited in scope and impermanent. Universities have contributed through their special community extension programs, among which orchestras, ballet corps, choirs, theater groups, television channels, and radio stations deserve special mention over and above the many courses on subjects of general cultural interest which they habitually offer.

The Ministry of Education provides nonformal education both for schoolchildren and for adults. For children, provision is mainly through the Center for Out-of-school Education, which coordinates all free-time clubs existing in schools. For adults, activities are mainly literacy campaigns and distance education programs and also a "school for parents," which aims at promoting family education in the schools.

3. Administration

At the beginning of the 1980s, the administration and supervision of the system was undergoing drastic changes. The consolidation of the new administrative structure of the country had strengthened the functions of the mayors and municipalities, and the administration of public schools, which had traditionally been in the hands of the Ministry of Education, was now passed over to the municipalities. These changes will have a strong impact on education since public schools enroll the highest percentage of students—both at primary and secondary levels. The remaining students attend private schools, which are mostly dependent on the Roman Catholic Church.

The Ministry of Education is responsible for establishing educational policies, for producing technical norms, and for supervising, orienting, and evaluating public and private education through its specialized departments, namely the subsecretaryship of education, the general directorship, and the superintendency. Within each region, the Ministry has delegated its functions of planning and supervising activities to the regional secretaries of the Ministry of Education. Regional secretaries coordinate their action both with the Ministry through the superintendency of education and with the regional planning and coordinating secretaries, who act as advisors to the intendent, the highest regional authority. From the regional level, certain powers are delegated to the provincial level and in

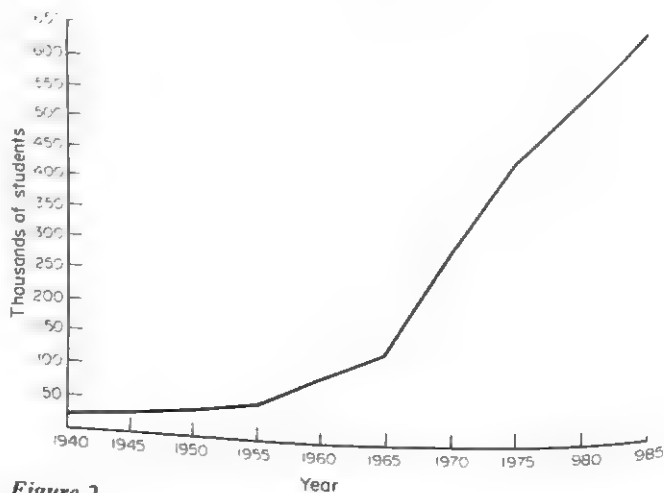


Figure 2

Secondary-school enrollment 1940-85^a

a Data grouped according to the structure of the system in 1980

turn to the community and school levels. For example, responsibility for the administration of primary and secondary public schools now lies with the municipal authority. Schools are responsible for carrying out the teaching-learning process. School principals have certain responsibilities for the administration of personnel and the curriculum. They may, for example, adapt the curriculum according to the characteristics and needs of the students.

4. Finance

The resources invested in public education come mainly from the central government (the state budget), from regional and community organs, from grants from the private sector, and from income originating in the schools themselves. Private schools are supported by student fees and by fiscal subsidies when the schools are free. Recently, contributions from municipalities and private bodies have increased with the transfer of

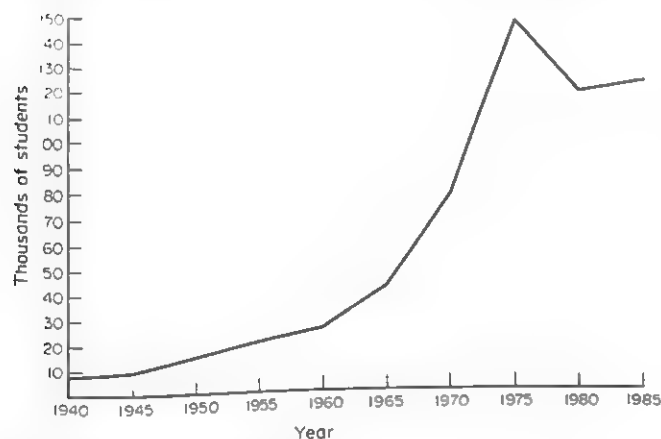


Figure 3
University enrollment 1940–85

responsibility for schools to these bodies. Self-financing has become particularly important in the universities, and several recent legal acts will gradually diminish the contribution of the state to higher education. The proportion of the state budget devoted to education was 15.4 percent in 1985 (17 percent in 1940, 12 percent in 1955, and 21 percent in 1970). As a percentage of GNP, the allocation has been between 3.5 and 4.5 percent over the 15 years to 1980. The allocation of the budget among the various levels in the system was the following in 1985: 7 percent for preprimary, 52 percent for primary, 21 percent for secondary, and 20 percent for higher education.

5. Supply of Personnel

Teacher training has always been given great emphasis in Chile. The first public institution created for preparing teachers for secondary education (the *Instituto*

Pedagógico) was founded in 1889 and was part of the Faculty of Philosophy and Humanities of the University of Chile. From then until 1980, the training of secondary-school teachers was entirely in the hands of the universities and was regarded as postsecondary education. This training lasted 5 years, during which prospective teachers studied general subjects, but, in particular, specialized in one or two specific disciplines which they would later teach and in which they received special pedagogical training.

Primary teachers, on the other hand, were trained in normal schools until 1966, and afterwards (1967–80) in the existing universities. Normal schools belonged to the vocational branch of secondary education and primary teachers received their professional training at the same time as secondary schooling. Preschool teachers and teachers for handicapped children were trained at the universities until 1980. From 1981, not only universities but also other institutions of postsecondary education could prepare teachers for all levels of the system.

At the beginning of the 1980s, there was, in general, no shortage of teachers and the teaching functions were performed to a large extent by persons who were qualified. In 1985, for example, 84 percent of teachers in secondary schools had a university degree in education, 4 percent had a university degree but not in education, and 12 percent had no degree. The distribution of qualified personnel is still uneven and some provinces, mainly in rural areas, are at a disadvantage in this respect.

Inservice training for educational personnel is provided by the Center for Inservice Training, Experimentation, and Educational Research of the Ministry of Education. Regional secretaries also provide training for teachers who have not obtained their degrees and, with the aid of universities, organize inservice training courses.

6. Curriculum Development and Teaching Methodology

The main curriculum reform of recent decades took place between 1966 and 1970. The old curriculum was strongly content oriented. In the new curriculum, the number of subjects was reduced and emphasis was placed upon student behavior and skills. The new programs included alternative contents, types of activity, and evaluation procedures. These alternatives gave teachers more freedom to carry out the teaching-learning process in accordance with the characteristics of their students.

In primary education, there has been, and still is, one uniform, nationwide curriculum, starting with global activities and gradually becoming more subject centered. Secondary education was, and is, also nationwide, but vocational tracks have different curricula which initially are largely the same as in the academic branch (70 percent of subjects) and later become more differentiated.

This curriculum was valid until 1980 in primary and until 1982 in secondary schools. The new study plans and programs place more emphasis on providing each student with opportunities to develop his or her own personality.

Since 1967, the Center for Inservice Training, Experimentation, and Educational Research of the Ministry of Education has had major responsibility for the planning and implementation of school curricula. The dissemination of innovations usually starts within a limited number of schools and with special training for teachers, after which they are gradually extended to the whole system.

7. Examinations

The decision as to whether a student is to be promoted lies with teachers and is based normally upon the performance of students in different types of tasks, testing the objectives in specific subject fields.

No special examinations exist in order to pass from one level of the system to another, except a nationwide examination that is held to select candidates for universities (the admission rate in 1985 was approximately 1:4). This examination consists of a battery of tests, including an aptitude test (verbal and mathematical reasoning) and several achievement tests which the student takes according to the subject matter(s) to be studied. The tests are administered throughout the country on common dates, and more than 90 percent of the students finishing secondary education take them. Universities then select their students from among those candidates who have obtained the highest scores in the tests and have the best average marks in secondary education. This system for selecting university students has been in existence since 1967.

8. Educational Research

The beginnings of educational research may be traced back to 1908 with the creation of a Laboratory for Experimental Psychology, a part of the Teachers Training Institute (*Instituto Pedagógico*) of the University of Chile. It has had a continuous development but its importance in decision making has been limited and only a few educational policies have been based upon the results of its research. These have included coordinated efforts to reduce grade repeating, the provision of textbooks to primary schools, and the implementation of the entrance examination to Chilean universities.

From 1950, several research institutions, both public and private, were created whose work was to have an impact upon the reforms introduced in education after 1960. Among them, two at the University of Chile stood out: the Institute for Education and the Institute for Statistical Research. At the Ministry of Education, the most important research organism was the Center for Inservice Training, Experimentation, and Educational

Research, founded in 1967. Among private institutions, the main one was the Center for Educational Research and Development (CIDE), created in 1965 and initially connected to the Catholic University. Educational research was given high priority in the 1960s since its importance in deciding and evaluating the changes that were taking place in education was widely recognized. During this period, the tendency was mainly to study educational achievement and the variables associated with it, the flow of students through the different levels of the system, and descriptive statistics of students using some psychological and sociological variables.

During the 1970s, educational research became a more common activity in those universities having faculties of education. The interest in determinants of achievement continued, but additionally dropout, language development, and the relationship between education and different elements in the social context were emphasized too.

The educational researchers' meeting held in 1985 showed that the main research issues at the beginning of the 1980s were achievement, preschool education, nonformal education programs, teacher training, and higher education.

9. Major Problems

Since the 1960s, major efforts have been devoted to the quantitative expansion of the system, and increases in enrollment rates have been substantial. Despite this, compulsory primary education is still not a reality for all children. Efforts will have to be made in the 1980s and 1990s to increase enrollments not only in primary education but also in preschool and secondary education.

A second major concern which will be of high importance in the next two decades is that of the quality of education. Many studies show serious discrepancies between the intended curriculum and the levels of student achievement. The changes in the structure of the system, administration of schools, and curricula which were implemented at the beginning of the 1980s have as their ultimate goal the improvement of both the quantitative and qualitative problems. Yet, education cannot be isolated from the whole social context, and its growth will therefore depend to a large extent on the development that takes place in the other subsystems of Chilean society. The coming years will tell to what extent the development strategies begun in the early 1980s are successful.

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China, People's Republic of

Dong Chun-cai

China is one of the countries with the longest history. The Chinese people of various nationalities have, through joint efforts, created a brilliant culture. However, as a result of being degraded to a semicolonial, semifeudal society more than a hundred years ago, China lagged behind other nations in culture and education. Since the founding of the People's Republic of China in 1949, tremendous historical changes have taken place, turning China into a socialist country which exercises people's democratic dictatorship under the leadership of the working class, based upon the alliance of workers and peasants.

China has a territory of about 9.6 million square

kilometres (3.6 million square miles) with a total population of 1,008 million (not including the Taiwan Province) according to the census of 1982, of which 200 million are in cities and towns while 800 million (or 80 percent) are in rural areas. The high rate of population growth in the past was reduced to 1.46 percent in 1982 owing to the effective birth control policy adopted in recent years. In the span of 30 years after its founding, the People's Republic of China has achieved great success in political, economic, and cultural fields. Its national income in 1982 amounted to 424,700 million Renminbi yuan. An independent, fairly integrated socialist industrial complex and a system of national

Of the total enrolment in adult education, 1,170,000 are in adult higher education institutions, 10,800,000 in adult secondary schools, and 7,570,000 are in adult primary schools.

3. Administration and Finance

Education is under the general guidance of the Communist Party and administered by governments at different levels. Educational legislation is formulated by the National People's Congress. The Ministry of Education, a department of the State Council, is the central administrative institution for the management of education in the country.

There are education bureaus within all the provincial, municipal, and autonomous regional government systems. There are also higher education bureaus in some provinces and municipalities where there are several institutions of higher learning. At the county level there are offices of education (or of culture and education) responsible for the administration of the local school system.

Higher education institutions are controlled centrally and administered respectively by provincial, municipal, and autonomous regional authorities as well as by various ministries under the State Council.

Primary and secondary schools are administered mainly by educational departments at provincial, municipal, and autonomous regional levels and effected by rural counties and urban districts.

Education is mainly financed by budget allocation from the state and local governments and subsidized by rural people's communes and production brigades. In addition there are grants from relevant governmental agencies and enterprises, and also some income is earned by the schools themselves.

In 1982, the educational expenditure accounted for 11.5 percent of the nation's operating expenses. The

Table 1
Enrolment of school-age children^a 1952-82 (in thousands)

Year	School-age population	School enrolments	Enrolment (%)
1952	66,424	32,681	49.2
1957	80,777	49,866	61.7
1965	116,032	98,291	84.7
1978	121,313	115,854	94.0
1979	123,231	115,081	93.0
1980	122,196	114,782	93.0
1981	120,185	111,755	93.0
1982	117,627	109,580	93.2

^a School-age children refers to 7-12 years old before 1965 and 7-11 after 1978.

Concerning Examinations for Higher Education Through Self-study, which was put into effect after its ratification by the State Council. Those who take part in and pass the standardized examinations are awarded diplomas and are recognized by the government as equivalent to full-time college graduates.

In 1982, the total enrolment in various types of schools and colleges at all levels made up 21.7 percent of the whole population of the country, amounting to 219 million, among which full-time school students numbered 199 million, an increase of 6.7-fold over the year of 1949. In the full-time educational institutions there were 21,300 postgraduates (a 32-fold increase since 1949), 1,154,000 undergraduates and students of short-cycle courses (an 8.8-fold increase since 1949), 47,027,900 secondary-school students (an increase of 36-fold since 1949), and 140 million primary-school students (an increase of 4.7-fold since 1949). Table 1 presents the enrolments for selected years from 1952 to 1982. Table 2 presents enrolments in 1982 at different levels of education.

Table 2
Numbers of full-time school students and teachers at each level of education in 1949 and 1982 (in thousands)

	Students (1949)	Teachers (1949)	Students (1982)	Teachers (1982)
Higher educational institutions	117	16	1,175.3	286.9
Graduate schools	0.6	—	21.3	—
Colleges and short-cycle higher education	116.5	—	1,154.0	—
Secondary schools	1,268	83	47,027.9	2,870.6
Secondary specialized schools	229	16	1,039.4	149.5
Secondary technical schools	77	7	628.0	110.2
Secondary teacher-training schools	152	9	411.4	39.3
General middle schools	1,039	67	45,284.9	2,680.6
Senior high schools	207	14	6,405.2	465.8
Junior high schools	832	53	38,879.7	2,214.8
Agricultural and vocational schools	—	—	703.6	40.5
Primary schools	24,391	836	139,720.4	5,504.6
Schools for the blind and deaf-mutes	—	—	33.7	5.4
Kindergartens	—	—	11,130.9	415.2

economy have taken shape while education, science, and culture are forging ahead, and the people's political consciousness and cultural level are gradually heightening.

China is a unified, multinational country. There are 56 nationalities; the Han nationality constitutes 94 percent of the total population while the various minority nationalities account for the remaining 6 percent, distributed over a vast area covering 50-60 percent of China's territory (including remote and mountainous areas, forest zones, and pastoral areas). In accordance with the characteristics and needs of various minority nationalities, the central government has been persevering in helping them accelerate the development of their economy and culture, thereby promoting common prosperity of all nationalities in the country.

The general task of the Chinese people both at present and in the years to come is to unite the people of all nationalities in working hard and self-reliantly to achieve, step-by-step, the modernization of industry, agriculture, national defence, and science and technology to make China a culturally advanced and highly democratic socialist country.

The state promotes the all-round moral, intellectual, and physical development of children and adolescents. "Respect the teacher and love the pupil" has become a motto for pupils and teachers alike. In China, separation of religion from education is strictly observed. No one may carry out religious activities that obstruct the educational system of the state.

Shortly after the founding of the People's Republic of China, it was stipulated that education should serve economic reconstruction, and schools be accessible to workers and peasants. After 1953, the educational undertaking was formally brought into the orbit of planned national reconstruction. As a result of practice over a period of time, the general educational policy was further defined "to enable everyone who receives an education to develop morally, intellectually, and physically and become a worker with both socialist consciousness and culture or, in other words, a qualified person who is both red and expert". The government attaches great importance to education, with the educational development plan an integral component of the national programme for economic and social development. The government runs and encourages social circles to run various types of schools including full-time schools, part-study/part-work schools, and spare-time schools, in efforts to develop literacy programmes, to popularize primary education, and to develop secondary, vocational, and higher education. The principles are implemented of combining uniformity with diversity, of popularization with the raising of standards, and of overall centralized planning with decentralized administration by local authorities and relevant departments.

1. General Educational Policy and Principles

elements at various levels. There are diversified forms of education and a variety of ways to run schools. As it is impossible to elaborate on every aspect of the huge educational system in China and its numerous links with society at large, this article is intended to provide only a general overview.

2. Structure and Planning

The Chinese education system comprises preschool education, primary education, secondary education, higher education, and adult education. Preschool education is provided in kindergartens which admit children over 3 years of age. Primary schools enrol children at 7 years of age, though the age of entry is gradually being changed to 6. In 1982 the length of schooling for most primary schools is 5 years while in a few large cities the school is divided into the junior stage and the senior stage, in most cases the former lasting 3 years and the latter 2-3 years in parallel. Those senior secondary schools which are better equipped with teachers and facilities have already been changed from a 2- to 3-year system. Secondary specialized schools admitting junior secondary-school graduates usually last 4 years. Vocational schools and polytechnic schools (training skilled workers) enrol junior graduates and offer 3-year courses.

Undergraduate programmes in universities or colleges generally require 4-5 years while some medical colleges require 6 years. Short-cycle professional training colleges are undertaken at two levels, leading to the award of a master's degree (a 2 to 3-year programme) or a doctor's degree (another 2 to 3-year course after a master's degree is obtained). The instruction time in adult higher education institutions is generally slightly less than that in corresponding formal programmes in full-time higher education institutions. The adult higher education programmes corresponding to full-time university undergraduate programmes last about 5 years, and those corresponding to short-cycle professional training colleges last 3 years.

In 1980 the Standing Committee of the Fifth National People's Congress passed the regulations regarding academic degrees in China, and in the same year the State Council established an Academic Degrees Commission for the administration of awarding bachelor's, master's, and doctor's degrees. Adult education is provided for workers, peasants, cadres, and soldiers over 15 years of age, with priority given to the young and middle-aged. Adult education institutions of various types and at different levels have established a testing scheme. Students who complete the required courses and pass a set of examinations are awarded certificates or diplomas.

In order to encourage self-study by youngsters and train various kinds of qualified personnel, the Ministry of Education formulated in 1980 the Tentative Rules

government in the early 1980s was planning to increase the amount appropriated for educational expenditure nationally and also the proportion in the state and local budgets.

A people's stipend system exists in higher education institutions and in secondary specialized and technical schools, to subsidize students who have financial problems. The people's stipend system runs in parallel with the people's scholarship which was introduced to higher educational institutions in 1983. The aim of the people's scholarship is to encourage and assist those who have good conduct and academic achievement.

4. Training of Educational Personnel

Educational personnel comprises teachers, staff members, and workers. In 1982 they amounted to 11,970,000, of which 9,420,000 were teachers.

The key to improvement of educational quality lies in the improvement of teacher qualifications. As a result of the 10 years of turmoil in the so-called "Cultural Revolution", a large number of newly replenished teachers were unqualified, and hence the immediate task is to train and retrain teachers. A network for the training of teachers and educational administrators has been initially established by the state. At the national level there is the College of Educational Administration set up by the Ministry of Education, which is responsible for the training of leading cadres in educational administrative sectors and in higher education institutions. At the provincial and prefectural levels, colleges of education or inservice teacher-training colleges, equivalent to teachers' colleges or short-cycle teacher-training colleges, are set up to be responsible for the training of teachers and administrators in secondary schools, normal schools, and vocational schools. At the county level there are inservice teacher-training schools, with the status of normal schools, which are responsible for the inservice training of primary-school teachers and staff members. Under the guidance of county teacher-training schools the teacher "coaching centres", set up in rural people's communes, provide training for primary-school teachers. Moreover, in addition to the training of their own students, full-time teacher colleges and normal schools also assume some responsibility for the inservice training of teachers. Programmes for the training of teachers and administrators are planned and implemented by educational departments at various levels.

Faculty members in higher education institutions improve themselves mainly through day-to-day teaching and research. Measures have been taken to provide experienced teachers with teaching and research assistants and to charge them with chairing "key teachers seminars", thereby enabling some teachers to play a leading role in academic affairs.

Young teachers may be admitted to postgraduate programmes, released from work for advanced courses,

or take part in relevant workshops or colloquia, thereby improving their theoretical knowledge and professional competency. It is intended that new college faculty members will be mainly recruited and replenished from among postgraduates.

5. Curriculum and Teaching Materials

Teaching programmes (including curriculum and the number of teaching hours) for primary, secondary, and normal schools are formulated and promulgated by the Ministry of Education. For higher education institutions the ministry defines the guiding principles of the teaching programmes and develops model plans as guides.

Unified standard textbooks for primary and secondary schools are compiled under the supervision of the Ministry of Education; however, provinces, municipalities, and local school systems can then compile their own supplementary or native teaching materials, should they prove necessary. Unified standard textbooks of common core courses and specialized foundation courses are developed and approved by the Ministry of Education while universities and colleges can compile some of their own.

In an effort to create a new generation which is both socialist-minded and professionally qualified, the Chinese schools and colleges at all levels attach great importance to political and ideological work. To this end they endeavour to:

- (a) improve and strengthen teaching in Marxist theories and moral education;
- (b) foster the students' love for their motherland, for the people, for labour, for science, and for socialism;
- (c) implement ideological and moral education in patriotism, collectivism, internationalism, and communism; and
- (d) protect the students from the corrosive influence of bourgeois ideology, pernicious vestiges of feudalism, and other decadent ideologies.

In recent years a morality course has been offered in primary schools, beginning from the first grade, and a course in juvenile self-cultivation is offered in the first grade of junior high schools. To strengthen legal education, an elementary course in law is offered in secondary schools. In addition to these courses, great emphasis is placed on coordination and cooperation between schools and families and the society at large in the common efforts to educate the young.

Chinese schools at all levels emphasize the principle of integrating theory with practice. In addition to lectures, group discussions, and laboratory experiments, learning also takes place through field studies, social investigation and practice in production units.

course projects, and graduation projects or theses. In efforts to implement the principle of combining mental and physical work, productive work is an integral part of the teaching programmes. Students participate in part-study/part-work programmes to cultivate a healthy attitude towards labour, to foster respect and love for the working people, and to learn certain practical skills.

6. Educational Research

China has a long history in which numerous educationists throughout the ages left an abundant educational heritage. In 1956 the Ministry of Education established the Central Institute of Educational Research, whose policy and functions are to undertake theoretical and empirical research studies on the major issues in Chinese education while critically assimilating whatever is useful from ancient and contemporary Chinese and foreign educational thought and experiences, thereby establishing an integral system of socialist educational sciences. In 1982 there were professional full-time educational research institutions in 28 provinces, municipalities, and autonomous regions. There are education departments and pedagogy teaching and research units in all normal universities and teacher colleges. In all there are 45 educational research units in the country, with over 1,500 professional full-time research workers. The Chinese Association of Education was established in 1978, with local branches subsequently founded in every province, municipality, and autonomous region. Under its supervision 19 professional learned societies in such fields as pedagogy, educational psychology, history of education, comparative education, and Marxist-Leninist theories of education have been set up. By 1982 much work had been accomplished in the collection and publication of relevant data and information, in the translation of world classics on education, and in research of current practical problems. Educational books and textbooks have also been compiled and published. The Chinese Higher Education Society was formally founded in May 1983, and higher education research units all over the country now number 200. As a result, research in higher education has been strengthened further.

7. Major Problems

Although great progress has been made in Chinese education, there are still problems and many lessons to be drawn. The following are among the major problems which demand studies and solutions during the 1980s and 1990s:

- (a) reforming the system of education step-by-step in a planned way, to coordinate it with the reforms in the systems of labour and employment, personnel,

and wages, and to establish a socialist education system suited to China's conditions and the needs of national modernization:

- (b) universalizing primary education prior to 1990. The emphasis should be placed on the popularization and reform of rural education;
- (c) reforming the structure of secondary education. General senior high school needs to be readjusted and vocational and technical education developed at all levels, so that there will be a rational relationship between general education and vocational education. The problem of providing higher learning and employment opportunities for high-school graduates must also be tackled;
- (d) allocating more resources to improve teacher training. Teachers' training and their further development should be given the highest priority;
- (e) improving the quality of higher education while at the same time developing its quantity, introducing different levels of school, diversified programme requirements and various forms of education. Readjustments and reforms should be made in the programming of departments and specialities, and in administrative systems;
- (f) further strengthening of literacy programmes to raise the scientific and cultural levels of the Chinese nation. Earnest efforts will be made to strengthen workers' education in coordination with the current all-staff training in factories and other enterprises, to develop diversified forms of farmers' spare-time education in terms of the needs of agricultural production, and to develop various kinds of adult higher education including evening colleges, correspondence universities, radio and television universities, workers' universities, and institutions for administrators;
- (g) projecting and planning professional personnel. The State Planning Committee, the Ministry of Labour and Personnel, and the Ministry of Education should, together with other relevant departments, take up the forecasting and planning of professional personnel in order to develop education in a planned and structured way.

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Colombia

J. Mora

Colombia is the only South American country which borders on the Atlantic as well as the Pacific. With a land area of 1,138,382 square kilometers (439,530 square miles), it is the fourth largest country in South America.

Colombia can be regarded as an archipelago of seven macroregions with particular social, economic, and cultural characteristics. It is classified as a socioeconomically dependent capitalist nation, whose social structure is represented by a pyramid made up of four social classes: an upper class consisting of 9.2 percent of the population, a middle class of 30.5 percent of the population, a lower class of 60.3 percent of the population, and a marginal class representing 6.8 percent of the population.

In 1982 Colombia had an estimated population of 26.7 million and an estimated per capita gross domestic product (GDP) of US\$1,100. It was considered to be a medium-sized middle-income country.

The demographic structure has undergone significant changes. The net rate of population growth dropped from 3.2 per thousand inhabitants in 1964 to 2.0 by 1978. In 1951, some 31.6 percent of the Colombian population lived in urban areas and 61.4 percent in rural areas. In contrast, in 1980, some 65.4 percent of the population was urban and 34.6 percent was rural. These changes evidence a high rate of migration from the country to the cities, resulting from the better living conditions to be found in the urban areas. The 1985 census seems to suggest a geographical redistribution of population due to political and social unrest.

Economically, Colombia saw a net average annual increase in GDP of 6 percent from 1970 to 1979. The structure of production and consumption evidences signs of an economy in the process of transformation through urbanization and industrialization. However, income is concentrated in a few hands: 75 percent of the population receive only 25 percent of the national income.

1. Goals of the Educational System

The Colombian educational system is based on the social and economic structure of the country. Historically, education in Colombia was developed on Spanish, French, and, recently, North American patterns without the required adjustment to the needs and characteristics of the country. A major aim of the National Educational Plan (1982) is to train the labor force required for the development of the country.

Secondary schools offer programs which emphasize the humanities, sciences, pedagogy, and technical or commercial education. These programs are intended to train students to join the work force, or to enter higher education if they have the opportunity to do so. Institutions of higher education train technologists and pro-

fessionals in various fields, according to the needs of the country.

The National Development Plan (1982) emphasizes policies oriented toward the improvement of the quality of education, particularly for younger children and for adults, and gives priority to the rural sector of the population.

The national language of the country is Spanish and, with the exception of a few programs for the Indian population in the Andes, education is carried out in Spanish with the introduction of English and French as options for a foreign language.

2. General Structure and Scope of the Educational Effort

The responsibility for education in Colombia is outlined in Article 41 of the Constitution as follows:

Freedom of education is guaranteed. The state shall have, however, the supreme inspection and care of institutions of learning, public and private, in order to secure a fulfillment of the social purposes of culture and the best intellectual, moral, and physical development of the student. (UNESCO 1955 p. 170)

Article 120 includes as the responsibility of the president of the republic, as chief of state and supreme administrative authority, "... to regulate, guide, and supervise public instruction" (Franco and Tunnermann 1978 p. 209).

Public educational programs have been, in general, the responsibility of the Ministry of Education. Some of these programs, however, are the responsibility of other ministries. For example, the National Learning Service, a program which offers opportunities for inservice training to workers from different sectors of the economy, is the responsibility of the Ministry of Labor, and the Ministry of Health offers educational programs directed towards the improvement of family life.

According to Decree 088, dated 1976, the national system of education includes three forms of education: formal, nonformal, and informal education.

Formal education is structured in a sequence of regular school periods with an established curriculum content in each. School periods are integrated into four levels of education: preschool, basic (five years of primary and four of secondary education), middle-vocational and intermediate-professional, and higher education.

Nonformal education is not structured in regular periods nor does it have a curriculum sequence. It does not offer degrees and is considered to complement formal education.

Informal education aims to identify and diffuse cultural values and to promote massive opportunities and access to culture in general.

Since 1960, the Colombian government has made a significant effort to expand and improve educational opportunities. In the period 1964 to 1977, the rates of increase in enrollment was 92 percent for primary education, 314 percent for secondary education, and 52 percent for higher education. As a result of this effort, from 1964 to 1978 the percentage of the economically active population which did not receive education diminished from 27.1 percent to 16.4 percent, and the percentage of the same category of the population which received education above the primary level increased from 12.3 percent to 28.7 percent (Colombia 1979).

Despite these developments, the educational system faces serious problems which the state is trying to solve. The rate of illiteracy is still high, as is the rate of school dropout. Of each 100 children of school age (7-14), 80 attend primary school and only 32 finish this cycle. The situation is worse in rural areas than in urban areas. Only 37.2 percent of children of secondary-school age attend school and most of the opportunities are concentrated in the urban areas. Of each 1,000 children entering the first grade of primary school, 7 receive a degree in higher education.

Under the National Integrated Plan for 1979 to 1982, educational policies emphasize: attention to the younger child, including assistance to the family; decreasing the dropout rate in, and improving the quality of, primary education; expansion and diversification of secondary education plus attention to the rural sector; promotion and support of research in higher education and rationalization of the demand for educational opportunities at this level; and support of adult education through nonformal and informal opportunities. According to the national plan Development with Equity, 1982-86, educational policies emphasized the integration of formal and nonformal education at all levels in general and distance tertiary education.

The private sector plays an important role in education in Colombia. In 1982, some 62.3 percent of the children enrolled in preschool education attended private schools and 37.7 percent attended state schools. At the primary level, 86.1 percent of the children attended state schools and 13.9 percent attended private schools. At the secondary level, 58.6 percent of the students enrolled attended state schools and 41.4 percent attended private schools. In higher education, 41.8 percent of students attended private institutions and 58.6 percent state institutions (Columbia, Ministerio de Educación Nacional 1982).

3. Administration

The reorganization of the educational sector established by decrees in 1968 and 1976 aims to centralize educational policies and finances and to decentralize the administration of education. The more recent educational development plans are oriented toward the

improvement of the quantity and quality of educational opportunities through the implementation of programs geared to respond to regional characteristics and educational needs. They are also designed to achieve an adequate administrative, financial, and curricular structure in accordance with the characteristics of the country resulting from its social, economic, and cultural development.

One of the outstanding strategies for implementing administrative decentralization is educational mapping. Through the technique of school mapping, local administrative units called Nuclei for Educational Development have been set up. A nucleus is composed of communities interrelated on a social, economic, and cultural basis. Several nuclei with similar characteristics constitute an educational district, the second-level administrative unit. A secretariat of education is the regional administrative entity of each of the 32 territorial units into which the country is divided. Each of these units is composed of several educational districts. The secretariats of education constitute the link between the region and the Ministry of Education.

With the exception of special programs, educational administration is conducted through this structure. The educational map is still in the process of being implemented.

4. Finance

In 1970, some 13.6 percent of the total national budget was assigned to education; in 1975, it was 16.5 percent; and in 1980, it was 19.0 percent. The total amount of money that the government assigned to education increased by 163.2 percent in the period 1971-75 and by 220.0 percent from 1976 to 1980. By 1980, some 37.9 percent of the total educational budget was dedicated to primary education, 21.2 percent to secondary education, and 22.1 percent to higher education.

Beginning in 1971, Colombia embarked on a policy to centralize educational finance in the government while decentralizing responsibility for the administration of the school system to the regional level. This policy is intended to empower the government to redress the severe regional inequities in the distribution of educational expenditure and opportunities due to the uneven development of the country's administrative units. As a result of this policy, by 1980, the proportion of total public education expenditure contributed by the government reached 84 percent as compared with 65 percent in 1970.

The government financial effort to increase educational opportunity and to improve educational quality is based on Law 46 of 1971 (*Situado Fiscal*, translated as "tax allowance") and Law 43 of 1975 (Nationalization). The *Situado Fiscal* requires that at least 11.1 percent of the ordinary income of the government be allocated to expenditure on primary education. Nationalization requires that one-half of the sales tax returnable to the

22 municipalities, which are departmental capitals, and to the Special District of Bogotá be transferred to the Ministry of Education as financial assistance to secondary education.

The government administers financial resources at the regional level through regional educational funds, which are supervised directly by the National Ministry of Education.

5. Supplying Personnel

Primary-school teachers are trained in normal schools, a type of secondary school whose curriculum includes four years of general education and two years of specialized learning for the teaching of all subjects at the primary level. A few specialized programs have been created in the faculties of education of private universities. By 1977, there were 209 normal schools, 163 state schools, and 46 private schools. Almost every territorial unit has its normal school.

The academic level of the normal school is one of the lowest among the different types of secondary school. To remedy this deficiency the National Ministry of Education offers training in the form of inservice training and "professionalization" programs. The first is intended to supplement or complement normal-school education, the second to offer professional training to teachers who have not finished normal school.

At the beginning of the 1980s, there were more normal-school graduates than the educational system requires.

Secondary-school teachers are trained at the national and state universities. After four years of schooling and approved studies, the student receives the degree of *Licenciado* in one particular subject area. Professionals from various fields, particularly technical ones, join the educational system to work mainly in the diversified schools (those with various curriculum alternatives which allow students to choose a technical speciality and obtain employment after graduation in case they are not able to enter an institution of higher education or are not interested in doing so). At present, there are 48 institutions which train secondary-school teachers, 26 of which are state and 22 private.

University faculties are made up of professionals from different fields of knowledge. The institutions of higher education promote the academic advancement of the staff through the financing of their graduate studies within the country and overseas. Also, the Colombian Institute for Educational Credit and Technical Studies Overseas offers loans and scholarships to teachers who are supported and recommended by the institutions where they work.

Most of the teachers who serve in adult-education programs are graduates of normal schools and have often taken additional teacher-training courses specifically for this purpose.

6. Educational Research

In the 1970s, the lack of sufficient basic and applied educational research has been identified as one of the main problems the educational system has to solve. Few efforts have been made to respond to the need for information concerning regional characteristics and problems.

As an example of an attempt to fulfill these needs, the socioeducational research developed by the National Ministry of Education as part of the Integrated Rural Development Program can be mentioned. Evaluative studies of normal schools and technical education have also been developed as well as several studies to characterize primary-school teachers and their role as educators. There is not, however, a system of educational research which fulfills national needs.

Some universities, through their graduate-studies programs, supply information, mainly of a survey type, to the regions and localities from which these graduate students come. This information is then used for regional-planning purposes. The graduate programs for educational administration have made a noteworthy contribution in this respect.

7. Major Problems

Several references point to the following as the more acute problems the educational system should attempt to solve in the 1980s and 1990s.

- (a) The great cultural differences derived from the social and economic inequalities among the population.
- (b) The lack of basic and applied educational research, particularly in the socioeconomic and curricular areas, to adjust the curriculum to regional characteristics.
- (c) The lack of coordination between literacy programs and nonformal educational activities.
- (d) The low academic quality of educational personnel.
- (e) Insufficient educational services for younger children.
- (f) Insufficient educational opportunities for the rural sector of the population.
- (g) The lack of a reliable system of information.

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Congo

V. Senga-Nsikazolo and A. Makonda

The People's Republic of the Congo is situated in central Africa, astride the equator, on the Atlantic coast. It has a population of about 1,600,000 in an area of 342,000 square kilometres (132,046 square miles) and an average density of 5 inhabitants per square kilometre. The Congo is bordered by Gabon to the west, Cameroon and the Central African Republic to the north, Zaire to the east, and the Angolan enclave of Cabinda to the extreme southwest.

The country gets its name from the ancient kingdom of the Congo, which extended over the southern part of the Congo, east Zaire, and north Angola. It has long been inhabited, as archaeological remains dating from the palaeolithic period show. The Pygmies were probably the first inhabitants, followed by successive waves of Bantu peoples. As well as the chieftainries in the north, it had three kingdoms: Kongo, Tyo, and Teke. It was the ruler of the Teke kingdom, Ontkoo (or Makoko), who, together with the French explorer Savorgnan de Brazza, signed the treaty of Mbé, which was to lead to the colonization of the future People's Republic of the Congo by France, from 1880. The present shape of the country results from a redistribution of territory by the colonial powers at the end of the nineteenth century in which the land situated on the right bank of the River Congo and of its principal tributary, the Oubangui, was allotted to France.

After 75 years of colonization, as part of French Equatorial Africa (which also included Gabon, the Central African Republic, and Chad), the Congo became independent in August 1960. The liberal economic policies and the encouragement of foreign investment practised by the leaders of the first republic were unable to bring about economic recovery or to halt the growth of urban unemployment. A popular rising took place in 1963 and the new rulers preached "scientific socialism" as their "basic principle" and established political and diplomatic links with socialist countries. But the worsening economic recession, due to the total absence of investment, sociopolitical anarchy, and discontent in the army, brought about an insurrection in July 1968. The new president, Marien Ngouabi, officially adopted Marxism-Leninism and, as a result, introduced the following changes, among others: creation of the *Parti*

congolais du travail (Workers' Party), transformation of the Congo into a people's republic, restructuring of the mass organizations, and promulgation of a new Constitution. The assassination of President Marien Ngouabi in March 1977 did not call into question the ideological choice of the country. The Party Military Committee, which was set up as an exceptional measure after his death, and was led by General Yhombi-Opango, made way (from February 5, 1979) for normal administrative and political structures under the leadership of Colonel Sassou-Nguesso.

In economic terms, one of the country's greatest assets is its forests, which cover about 60 percent of the territory; for many years, especially between 1955 and 1974, timber was the chief export. Despite over-exploitation of the southern forests, nearer to the Atlantic and to the main roads, there are still 10 million hectares of untouched forests, which in any case are renewable, thanks to reforestation and the spontaneous regeneration of certain species. The importance of the forests partly explains the relative unimportance of agriculture, to which less than 1 percent of the national territory is given over. The traditional gathering economy is no longer able to feed a rapidly growing and increasingly urban population and there is ever-increasing dependence on imported foodstuffs. Although the soil is on the whole ill-suited to agriculture and intensive stock farming (the absence of adequate grazing lands, and the tsetse fly, hinder the rearing of bovines), there is great potential for the development of many equatorial and tropical crops: coffee, cocoa, oil palm, sugarcane, tobacco, cassava, maize, groundnuts, bananas, various vegetables, etc. As a result of the serious deficiencies in this area, the authorities have declared agriculture their "top priority". The 500,000 or so Congolese peasants also deplore the difficulties they encounter in moving their produce because of the lack of roads. Indeed, in addition to the River Congo and some of its tributaries in the north, and two railway lines in the south, the country had less than 500 kilometres of tarred roads in 1983.

Nevertheless, there have been prospects of economic recovery for several years, thanks to increased offshore oil production. After a long period of underproduction,

oil and gas have experienced a fairly spectacular boom: whereas in 1978 oil represented only about 60 percent of total exports, it easily exceeded 90 percent in 1980. Judicious use of the profits made from the sale of "black gold" should make it possible to place the economy on a sounder footing, in particular through the reorganization of agriculture and by increasing the contribution—at present symbolic—of the industrial sector to the gross domestic product (GDP).

1. Structure and Size of the Educational System

1.1 Formal Education

The Congolese educational system, which is greatly influenced by the French system, has been modified, and reforms are being introduced in the early 1980s. It is organized as shown in Fig. 1.

The preschool stage is still very limited. The 10-year basic stage, which is obligatory, is divided into two

levels. The first level lasts six years (grades 1–6), corresponding to primary education. The second level lasts four years (grades 7–10). On entry to the second level, students choose between general education (in colleges of general and polytechnical education, or CEGP) and vocational training (in vocational centres, or CP). The secondary stage lasts three years, and the choice is again between general education (in specialized secondary schools, or ESES) and vocational training (in secondary centres for vocational training, or CSFP). The higher stage, of variable length, is based on the faculties and institutes of Marien Ngouabi University.

More than 30 percent of the population attends school. Between 1965 and 1980, the school population tripled, increasing from 184,641 to 556,212 pupils and students.

At primary level, the attendance rate is nearly 100 percent of the relevant age groups, which is comparable to that of industrial countries; in black Africa, perhaps

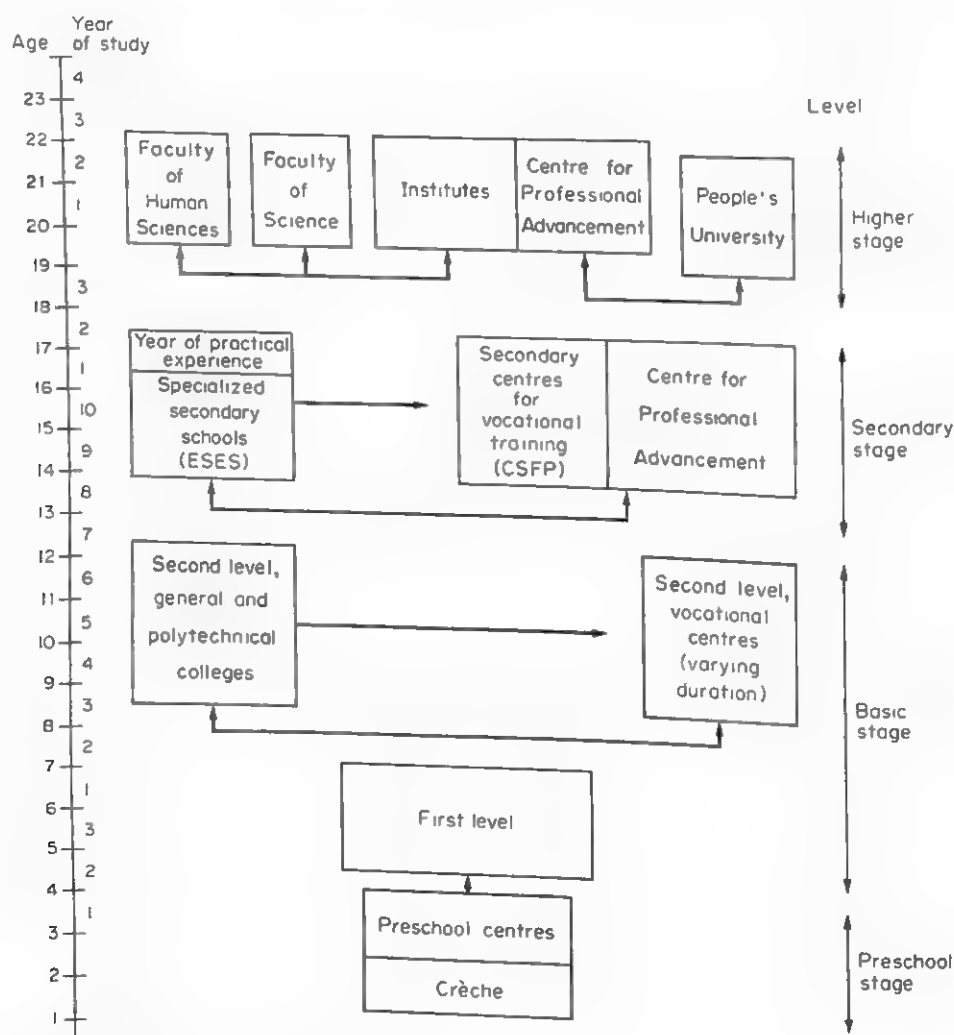


Figure 1
Structure of the educational system

only Gabon has a similar attendance rate. Beyond the primary level, the increase in numbers is particularly spectacular at basic, second level and in the general secondary schools, since from 1965 to 1980 numbers have increased 12 times in the colleges of general and polytechnical education and more than 20 times in the general secondary schools. There has also been a considerable increase in the number choosing technical education: in 1965, there were only about 2,500 pupils in technical education, and in 1980, nearly 13,000. Similarly, the number of university students increased from less than 1,000 in 1967 to nearly 7,000 in 1980.

However, it is clear that a developing country with serious economic problems would not be able to extend its educational system so greatly and so quickly without difficulty. Human, financial, and material resources have not been able to keep pace with this rapid expansion of the educational system.

The shortage of teachers is revealed by a student/teacher ratio of more than 50—in fact, a misleading figure, as classes of 100, 120, or even 150 are sometimes found. The situation is made worse by the fact that teachers lack qualifications: of the 6,852 teachers in basic, first-level schools in 1980, only 2,203 were qualified; in basic, second-level schools in the same year, there were only 350 qualified teachers out of a total of 2,243 teachers. In addition, both premises and equipment are extremely inadequate, quantitatively and qualitatively. The possession of a laboratory is a privilege which only a small minority of establishments enjoy. The shortage of premises has led, especially in urban areas, to a shift system, where the same classroom is occupied by one group of pupils in the morning and another in the afternoon.

It should also be noted that this impressive expansion has been almost exclusively in the least costly branches, those requiring minimal investment in equipment. This accounts for the excessive growth of general education compared with technical and vocational training. In 1980, while 130,000 pupils were enrolled at colleges of general education, only 5,000 attended technical colleges and only one-third of these were in the industrial sections. These figures help to explain the profound discrepancy between the products of the school system and actual personnel needs: the schools produce many people with no vocational qualifications, while the national economy suffers from a shortage of specialists in many industrial sectors.

Another consequence of expanding education without the necessary financial, material, or human resources is a lowering of educational standards. Thus, of the 383,018 pupils in primary schools in 1980, 95,134, or more than one-quarter of the total, were repeating a year; the pass rates for the two main examinations, the certificate of general studies and the *baccalauréat* were, again in 1980, 23.80 and 20.40 percent respectively; of 1,000 children admitted to basic, first-level schools in 1972, only about 1 in 10 went on to the second level without repeating a year.

1.2 Nonformal Education

With about 250,000 people, or one-third of the adult population, officially registered as illiterate, literacy is a national priority. Despite undoubted efforts (the Congo was awarded prizes three times during the International Literacy Campaigns of 1970, 1975, and 1981), the literacy effort suffers from the lack of a coherent and consistent policy, which is revealed by, among other things, the erratic variation in the number of literate persons, literacy teachers, and literacy centres between 1966 and 1980. For example, the number of people attending literacy courses was 9,505 in 1966, 24,792 in 1971, 13,705 in 1974, 20,053 in 1976, and 6,899 in 1980. It seems therefore that, compared with the total need, the achievement of literacy efforts is still marginal.

On the other hand, the very high social demand for education is shown in the growth of evening classes for adults. These courses, for which a fee is charged and which are taught by professional teachers, who in this way supplement their incomes, are above all a means of obtaining diplomas, in order to accelerate social and professional advancement.

Faced with the shortcomings of formal vocational training mentioned above (Sect. 1.1), or because highly specialized techniques are required, more and more firms are themselves undertaking the training and retraining of their employees; such internal training schemes are particularly well-developed in banks, post and telecommunications, the railways, etc.

Finally, there are direct apprenticeships in some trades (shoemakers, tailors, carpenters, ivory workers, car mechanics, hairdressers, etc.). This type of training is still little known about, for want of studies and ad hoc legislation.

2. Administration and Finance

Since education was nationalized in 1965, there has been no private education in the Congo, and the Ministry of National Education supervises the whole of the educational system. The only exceptions to this rule are a very small number of professions requiring very specialized training (the police, army, and post and telecommunications).

Apart from supervision of higher education establishments by the rectorate of Marien Ngouabi University, education is managed at the national level by seven general directorates, or similar bodies, which are respectively responsible for basic education, secondary education, examinations, orientation and cooperation, school administration, lifelong education and literacy, educational research, and school planning and documentation. The national capital (Brazzaville) and the nine administrative regions are governed, for educational purposes, by regional directorates of education. The relative precariousness of educational administrative structures should be noted: they often last only as long as a government.

Table 1
Expenditure on education, 1980

	Millions of CFA francs	%
Administration	953.0	4.35
Primary education	7,611.4	34.76
Secondary education	6,230.6	28.46
Higher education	5,415.5	24.74
Beginning-of-year grant	1,103.9	5.05
Various transfers	299.7	1.38
Other ministries	274.8	1.26
Total	21,888.9	100.00

In 1980, public expenditure on education rose to 21,898 million Congolese francs—about 25 percent of the state budget or 11 percent of GDP—and was divided as shown in Table 1. More than 75 percent of the total was spent on salaries and study grants.

As the money provided by the state is not sufficient to enable the school system to function satisfactorily, pupils' parents have for many years contributed towards expenses. They do so in the framework of "mass creative action", which takes the form of building and equipping classrooms, as well as meeting the costs of schooling (uniform, supplies, examination fees, etc.). It is impossible to quantify precisely this parental participation in education financing, but in some years many more schools have been built by the people than by the state.

3. Teachers

Ideally, Congolese teachers are trained as follows. Primary-school teachers receive three years' training and teach in basic, first-level schools (primary schools). The competitive entrance examination for teacher-training colleges is open to candidates who have completed 10 years of basic education and who hold the certificate of general education (BEMG).

Teachers in basic, second-level schools have completed their secondary education, and received two years' university training (at the *Ecole normale supérieure*, or Higher Institute of Educational Science). They are specialists in one or two subjects.

The third group of teachers consists of those who teach in secondary schools: they are admitted to the university on the basis of the *baccalauréat* and receive four years' training in a given subject.

Internal competitive examinations, followed by ad hoc training, enable teachers to move from one grade to another. It must, however, be admitted that this structure is largely theoretical and corresponds only partly to reality. At present, there are still a large number of unqualified or very poorly qualified teachers: since the social demand for education has grown much faster than the output of teacher-training establish-

ments, the government has been forced to call upon people without the necessary qualifications, especially for the basic stage. Also, primary education is still suffering the consequences of the former policy of training several categories of teachers for the same stage (instructors, senior instructors, assistant teachers, teachers); a vast retraining campaign has been in progress for many years, with the aim of achieving a single body of primary-school teachers.

Another serious problem is the loss of prestige of the teaching profession. The low level of salaries and the prospect of being sent to work in remote areas discourage the best candidates from taking up a career in teaching. In addition, many teachers "abandon the chalk" for better paid—or simply more restful—jobs in the private sector, or in more prestigious branches of the public service (finance, customs, army, party, mass organizations, etc.). The need to revalue the teaching profession is therefore becoming increasingly urgent.

4. Curriculum Content, Teaching Methods, and Research

Primary- and secondary-school curricula are drawn up by the National Institute of Educational Research and Action (INRAP), which tries to involve teachers in this task to varying degrees. In general, curricula are national; only primary-level geography is deliberately varied from one region to another. Apart from universal subjects such as the language of schooling, mathematics, science, history, geography, and physical education, special emphasis is placed on ideological training: at the basic stage, pupils join the National Pioneers Movement, and at the secondary and higher stages, "social sciences", which systematically favour the Marxist-Leninist world view, are taught.

The National Institute of Educational Research and Action is also responsible for producing the necessary support material in the form of textbooks and periodicals and for making corresponding methodological recommendations to teachers. However, the Congo is far from self-sufficient in educational matters and is still forced to use material published abroad, especially in France.

The National Institute of Educational Research and Action and the teacher-training establishments try to promote teaching methods likely to develop an active attitude to study and intellectual independence in pupils, but the fact that teachers are underqualified, the lack of teaching materials, and the overcrowded classes mean that in reality only traditional formal teaching is possible.

Basic research is carried out mainly by the Higher Institute of Educational Science (INSSÉD), which is also responsible for training school inspectors, education advisers, and teachers. Through the work of its teachers and the dissertations of its students, INSSÉD is laying the foundations of Congolese educational research.

5. *The Evolution of the "People's School"*

A description and explanation of the state of crisis within the Congo's educational system has been presented. It is interesting to note the background to the present situation. The school system has been analysed many times, and especially during a conference on education held at Brazzaville in 1970. In the manifesto adopted at the end of this conference, it was stated: "Existing schools produce Congolese who look to Europe in general and France in particular. They produce citizens who have no confidence in themselves, nor in their compatriots." This admission, that Congolese schools do not correspond to the reality of Congolese life, lay behind the decision to implement a "total, radical, and systematic reform" leading to the introduction of a "people's school", an entirely new educational system whose main aim would be "to bring schooling into close association with workers and industry".

During the years following the conference, the label "people's school" was often attached to a series of educational initiatives, which were as sporadic as they were impromptu. It was not until 1977 that the decision was made to set to work on a project of reform, with technical and financial assistance from UNESCO and the United Nations Development Programme (UNDP). Thus, it was only then that the reform began in a systematic and organized manner.

One of the first steps towards the reform was to give it a legal basis and in November 1980 the People's National Assembly passed a law concerning the reorganization of the Congolese educational system. To bring Congolese schools into line with the ideology and economic needs of the country, Article 2 of this law states: "The People's School prepares the child to enter productive life. Its curriculum is drawn up with reference to the qualitative and quantitative needs defined by the global national development plan." In practical terms, this directive took the form of integrating the sectorial national education plan in the 1982-86 five-year plan.

Special emphasis is placed in schools on productive work in order to instil into pupils "respect for and a positive attitude towards work, to teach them the habits and norms of efficient working behaviour (team spirit, sense of organization, reflection on working methods, respect for production norms and productivity), to direct their aspirations so that they coincide with the needs of the country".

Various steps have been taken to promote productive work. First, a reference document was drawn up, defining the concept of productive work by attributing to it three main functions: an educational function through integrating the teaching of theory with practical activity; an economic function through the participation of the school in its own financing and in the national development effort; and finally, a social function through the integration of the school in its social and cultural

environment. Workshops and seminars are organized for teachers, researchers, and administrators, in order to familiarize them, both in theory and in practice, with this concept of productive work. Each year the government makes available 40 million Congolese francs to provide 20 schools with agricultural equipment. Finally, a prize is awarded by the president of the Republic to the schools which do best in this area. Agriculture and stock-rearing are considered the most important parts of productive work, but school communities may also devote themselves to other activities such as crafts, the management of cooperatives, social and family economics, general home maintenance and repairs, etc.

The reform also emphasizes the need to revalue the national languages. As in nearly all former French colonies, the language of education is French and consequently, for many years, the use of the Congolese languages was banned and repressed. This left these languages in an underdeveloped state, characterized by an almost total lack of written material, the failure of the vocabulary to keep pace with the modern world, and with science in particular, and the lack of competent and experienced specialists. Under these circumstances, it is clearly impossible to replace French overnight by one or several Congolese languages. This is why it is planned to make the change gradually. The linguistics department of the university and INRAP are therefore undertaking the necessary research and drawing up educational support documents. They are working on two common languages, Lingala and Kituba (or Munukutuba), as the delicate problem of choosing a single language has not yet been tackled. The Marien Ngouabi University, for its part, has begun to train teachers who will teach Kituba or Lingala to future primary-school teachers.

In more general terms, the new training programmes are being prepared at INRAP. The approach used is that of aiming at defined objectives: on the basis of training schemes adopted by the national commission of the People's School, INRAP researchers work out programmes for the various school levels, formulated in terms of the observable behaviour which it is desired to instil into the pupils. Before these programmes are put into general use, it is planned to introduce them experimentally in a certain number of specially chosen schools.

Much has been done towards reforming the Congolese educational system and creating the people's school, but the battle has not yet been won, for, as Marie Eliou (1977) wrote, "the prestige of the former education system—which is the system still in use—is deeply entrenched in the Congo. Its implicit aim, which is cultural attachment to France, seems to have been largely internalized by the population. And to the extent that it constitutes a structure, this system, with its coherent internal logic, is still very much alive." Certainly, the introduction of the people's school is taking pace too slowly, but in an undertaking of this

size, which must overcome both cunning and tenacious resistance, and which, above all, is linked to a concomitant transformation of the socioeconomic system as a whole, such slowness is inevitable.

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Costa Rica

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Costa Rica is a country of about 2.3 million citizens in 1982, with a territory of 50,900 square kilometers (19,650 square miles). It is a part of Central America and it borders Nicaragua in the north, Panama in the south, the Atlantic Ocean in the east, and the Pacific Ocean in the west. Temperatures show very little variation during the year, reaching an average of 22°C in the center of the country and 26°C on the coasts.

The country became independent from Spain in 1821 and since then has had a republican system of government. General elections are held every four years for the selection of the president, two vice-presidents, and all members of the parliament and local governments. For foreign visitors, two of the most impressive characteristics of the country are its democratic system and the fact of its having no army. A proudly repeated phrase is: "Costa Rica has more teachers than soldiers and its barracks and prisons have been converted into schools."

The population increased by the highest annual rate of growth during the 1955-60 period, when it rose to 3.8 percent. It then went down to reach 2.4 percent during 1975-80. That decrease was due especially to the process of modernization and to the influence of family-planning programs.

Almost all the citizens speak Spanish and their religion is Roman Catholic. Racial problems are practically nonexistent. The majority of Costa Rican families have Spanish ancestors, even when there has been a lot of mixture with very different races and nationalities. About 43 percent of the population live in urban areas. The most inhabited region of the country is the central valley, which contains nearly 64 percent of the population; within it is the Metropolitan Area, in which 28 percent of the country's inhabitants live (1976 figures).

The economy depends basically on the export of coffee and bananas (in 1979 one-third of exports were of coffee and one-fifth of bananas). The composition of gross domestic product (GDP), calculated on the basis

of market prices in 1980, is 17 percent from agricultural activities, 20 percent from industry, 20 percent from commerce, and 43 percent from services. In that year, the percentages of the economically active population working in those four sectors were 29, 16, 18, and 37 percent respectively. The export-import ratio has changed from 0.78 in 1960 to 0.67 in 1979.

1. General Structure and Size of the Educational Effort

Education has received strong support from the government since the nineteenth century. In 1869, primary education was declared by law to be "free, compulsory, and financed by the government." In 1973, this law was extended to include the third year of secondary education, but in practice it has been impossible to implement it.

Table 1 presents literacy rates among those aged 10 and over, according to sex and rural and urban areas, as shown in the population censuses of 1950, 1963, and 1973.

Table 1

Literacy rates (%) among those aged 10 and over in 1950, 1963, and 1973

Year	Sex	Total	Urban	Rural
1950	Males	79.06	93.46	72.18
	Females	78.46	90.59	70.78
	Both	78.76	91.88	76.51
1963	Males	85.91	96.05	80.76
	Females	85.47	93.78	79.85
	Both	85.69	94.80	80.33
1973	Males	89.84	96.34	85.42
	Females	89.71	94.91	85.20
	Both	89.77	95.57	85.32

In 1973, some 94 percent of the population in the age group 7–12 were enrolled in primary education, 32 percent of the age group 13–17 were enrolled in secondary education, and 8 percent of the age group 18–24 were enrolled in higher education.

The educational structure has two systems: the formal system and the parallel system (see Fig. 1). The formal system has four levels: (a) preschool, with a duration of one or two years; (b) general basic education, which takes nine years and is divided into three cycles: the two cycles of primary education and the first cycle of secondary education; (c) diversified education, or the fourth cycle, with a duration of two years for those students who follow the academic program and three years for those following the technical program; and (d) higher education, which includes three government-financed universities, the Technological Institute, a private university, and the university colleges.

The parallel system consists mainly of (a) the National Institute of Apprenticeship, for the training of manual workers and for on-the-job instruction, and (b) the Adult Education Program. Also, many schools of commerce, painting, cooking, and the like operate in the country.

Since 1980, formal education has been administered regionally. The country is divided into 7 educational regions, which are subdivided into 22 subregions; these subregions are again divided into 119 microregions, within which there are 413 educational districts.

The Superior Council of Education is the government body that controls public and private education, with

Table 2
Enrollment by level 1960–80

Year	Preschool and primary school	Secondary school	Higher education
1960	202,811	32,688	4,703
1965	283,210	50,090	7,225
1970	364,179	76,573	14,272
1975	385,523	126,194	32,794
1980	376,646	173,176	53,415

the exception of the universities and the National Institute of Apprenticeship.

In 1980, some 97 percent of primary and secondary schools were government financed and received 96 percent of the total enrollment.

Enrollment figures for the different levels of the formal system of education during the 1960–80 period are shown in Table 2.

2. Finance

Expenditure on the formal system of education has shown a large increase in recent years. The percentages with respect to the national budget and to GDP are shown in Table 3. The share of higher education in total expenditure on formal education rose from 16.3 percent in 1970 to 21.3 percent in 1975 and to 22.0 percent in 1979.

Table 3
Education as a percentage of the national budget and GDP 1970–79

	1970	1975	1979
Budget	31.9	35.0	37.6
GDP	4.8	6.4	7.7

The University of Costa Rica was founded in 1940 and is the oldest in the country. In 1971 and 1973, the Technological Institute and the National University, respectively, started their activities. The *Universidad Estatal a distancia* (University at a Distance), which operates in a similar way to an open university, began its work in 1978. These four institutions are financed by the government. Students with scarce economic resources do not have to pay fees. There is a scholarship system that establishes the amount of fees payable by an individual according to the family income of the student. Even the highest fees paid are lower than those charged by the country's only private university.

3. Supplying Personnel

The university faculties of education are in charge of the instruction and training of teachers for primary and secondary schools. The duration of studies is four years

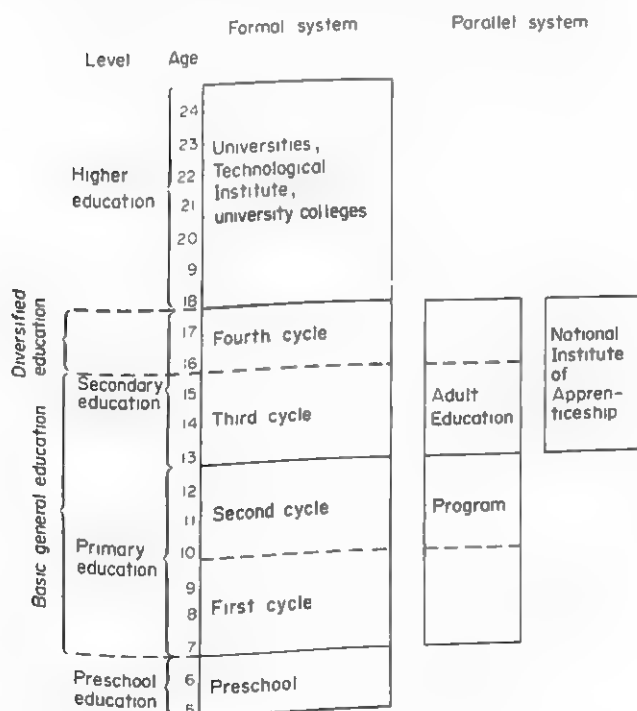


Figure 1
Structure of the educational system

for primary education and four or five years for secondary education. For teachers who have not been able to finish their university careers, there are intensive special programs and inservice upgrading courses that operate during vacations and at the weekends. At present, the average level of qualifications of personnel is considered very satisfactory and is the highest ever reached by the country.

There is also a special university program in educational administration that attempts to provide an adequate preparation to persons who will occupy administrative posts.

The appointment of educational and administrative personnel is made through the civil service.

4. Educational Research

Most educational research has been undertaken for theses and dissertations written by students to obtain university degrees in education. Many of these studies have been surveys conducted among students and teachers in order to determine attitudes, levels of knowledge, vocational preferences, reactions to different teaching systems, and so on.

Recently the Ministry of Education established the Unit of Pedagogical Research for the organization and development of projects directed at improving teaching. Some of the planned research themes are: (a) causes of dropouts and failures of students at different levels of education; (b) experiences of students who finish secondary education and cannot study at university; (c) kinds of assessment made of student achievement; (d) comparative study of advantages and disadvantages of the two methods of teaching reading used by teachers; (e) reasons why the dropout rate is so high in adult education; and (f) vocabulary, concepts, and attitudes brought to school by students from different regions.

The Multinational Center of Educational Research (CEMIE) is another institution devoted to this kind of

activity. It is financed by the Organization of American States and the Ministry of Education.

5. Major Problems

Perhaps the main problem faced by Costa Rican education is the search for a permanent source of finance, especially for higher education. During the 1970s and early 1980s, many difficulties have arisen in making budget allocations to education.

Another problem is to determine clearly which types of education and career opportunity should be created in order to satisfy the future needs of the country, avoiding any lack or surplus in the different professions and occupations. To achieve this, more planning of human resources will be required.

Many educators feel that the quality of instruction has decreased during recent years as a consequence of the overcrowding of the educational system at all levels, and many efforts are being made to develop a means of tackling this crisis.

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Cuba

J. Wertheim

Before the Revolution (1959), education in Cuba was organized so as to maintain a dependent capitalist system of production, both through meeting the needs of that system for a limited quantity of skilled labor and domestically trained managers and professionals and through socializing the mass of workers for an economy dominated by foreign capital, foreign products, high unemployment, and a very unequal distribution of income.

Like other dependent Latin American economies—which shared with the prerevolutionary Cuban economy the technical dominance of foreigners, unequal distribution of income and wealth, and the influence of the

United States on consumption and production patterns—the class structure was reflected in an unequal educational system in which rural education was particularly underdeveloped.

The sons and daughters of urban working-class and rural families in Cuba received much less and lower quality education than children of the middle and upper classes. Despite the fact that 40 percent of the labor force and about 50 percent of the population was in rural areas, only one-third of primary enrollment in the decade before the revolution took place in rural areas.

Furthermore, about one-third of university enrollment was in social sciences and law (Paulston 1971 p.

389) in preparation for the service jobs available for Cubans as intermediaries between United States businessmen and technicians and the mass of Cuban people. Of the 17,527 students in the University of Havana in 1953–54, only 1,502 were in the School of Science; of these, 409 studied civil engineering, 463 electrical engineering, 404 agricultural and sugar studies, and 226 pure science and mathematics.

Prerevolutionary Cuban educational development also had its own particular characteristics which were different from those of the typical Latin American dependent capitalist economy. Using Jolly's data (Jolly 1964), Bowles shows that there was educational stagnation in the 1930s, 1940s, and 1950s which resulted in a declining enrollment in primary school (Bowles 1979). In 1925–26, some 63 percent of the primary-school-age children in Cuba were enrolled in school, while in 1955–56 this percentage had fallen to 52 percent. By 1958–59, the proportion of the 5–14-year-old age group enrolled in primary school had declined to less than 50 percent (Bowles 1979 pp. 280–81). Thus, in a crucial period of economic stagnation (the 1950s), the educational system failed to expand and to mediate between the contradictions of Cuban development.

Four figures graphically sum up the state of education in 1958: (a) 1 million illiterates, (b) over 1 million near-illiterates, (c) 600,000 children without schools, and (d) 10,000 teachers without jobs.

Despite all this, even in the 1950s, after two decades of stagnation and decline in primary schooling, education in Cuba was much more widespread than in all but two Latin American countries (Argentina and Uruguay). In 1958, about 75 percent of the Cuban population aged 10 years or over had completed some primary or higher schooling, with only 25 percent not having attended any school; over 1 percent of the population had attended university.

Even though the necessary educational effort in revolutionary Cuba was great in any terms, revolutionary leaders inherited a relatively well-educated population by the standards of the typical Latin American dependent capitalist economy and a population already relatively well-integrated into a capitalist wage-labor production system.

1. Goals of the Educational Effort

After the revolutionary leaders obtained power in 1959, they were soon faced with the task of transforming the structure of the Cuban economy and its political culture. Education was viewed as a key factor in achieving both these goals. As Fagen points out, Cuban leaders did not see revolutionary programs as limited by lack of human resources so much as by the difficulty of mobilizing and utilizing the population at large and the resources of other organizations (Fagen 1969 pp. 66–67).

The principal reforms in postrevolutionary Cuba, then, revolved around mobilizing the entire Cuban population into productive activities and transforming

the ideological base on which these productive activities functioned. At the same time, reforms also responded to the need for more highly skilled labor in both rural and urban areas in order to achieve economic growth and for the development of particular skills as defined both by the overall shift in Cuban economic policy toward technical self-sufficiency and by specific shifts in policy.

These reforms were set in the context of Cuban revolutionary ideology, an ideology which was distinctly different from the capitalist philosophy of the pre-revolutionary society. The reforms also occurred in a particular order; that is, each reform was the result of events which preceded it, including other reforms. Changes in Cuban society became much more experimental, and the process of change took on new importance. Thus, the literacy campaign influenced the future of adult education; the "schools in the countryside" program emanated from "schools to the countryside"; dropouts at the primary level resulted in new schools to deal with the dropouts; etc. The process creating the reforms was a process largely of trial and error, of searching for new forms of education most suited to particular economic and social needs.

The most important reforms after 1959 were the radical change in the purpose and structure of adult education, the expansion of schooling at the primary and secondary levels, the shift of schooling to rural areas, the emphasized relation between schooling and work, and, ultimately, the combining of schools and workplaces—the schools as production units. In addition, socialization in the school changed from an emphasis on individual motivation to one on collective work.

The mobilization and ideological goals of the revolution made adult education a first priority in educational reforms. The adult-education programs promoted by the revolution were not avocational courses for interested housewives and hobbyists, nor continuation courses for the ambitious few; rather, they were part and parcel of a movement to incorporate everyone into the revolutionary project. The programs were ideological in two aspects: they were part of a complete turnabout in development ideology from the prerevolutionary confinement of the fruits of development to a small middle and upper class of Cubans to a postrevolutionary strategy of extending the growth process to the whole population; and they reflected the use of adult education to transform Cuban values (ideology) at all societal levels to fit into the new social relations of production.

Besides adult education, formal youth education, particularly at the primary and lower-secondary levels, was also greatly expanded, being an integral part of the revolutionary leadership's development ideology:

Education is an index of political oppression: that is, that lack of education is the best index of the state of political oppression, social backwardness, and exploitation in which a country finds itself. The indexes of economic exploitation

and economic backwardness coincide exactly with the indexes of illiteracy and the lack of schools and universities. The countries that are most exploited economically and most oppressed politically are the countries that have the most illiterates . . . (Castro 1961, quoted in Fagen 1969 p. 35)

But within the general expansion of formal schooling, the Cuban leadership constrained the growth of higher levels of schooling until the latter half of the 1960s, while investing heavily in primary- and lower-secondary education and lower level technical training. This investment policy was consistent with the income-distribution objectives of the early postrevolutionary period and with the perceived personnel needs of that time. Later, when personnel needs changed, and more focus was placed on economic growth per se, correspondingly more emphasis was placed on higher education and on the efficiency of primary and secondary education rather than on simply getting everyone into schools.

2. Structure of the Educational System

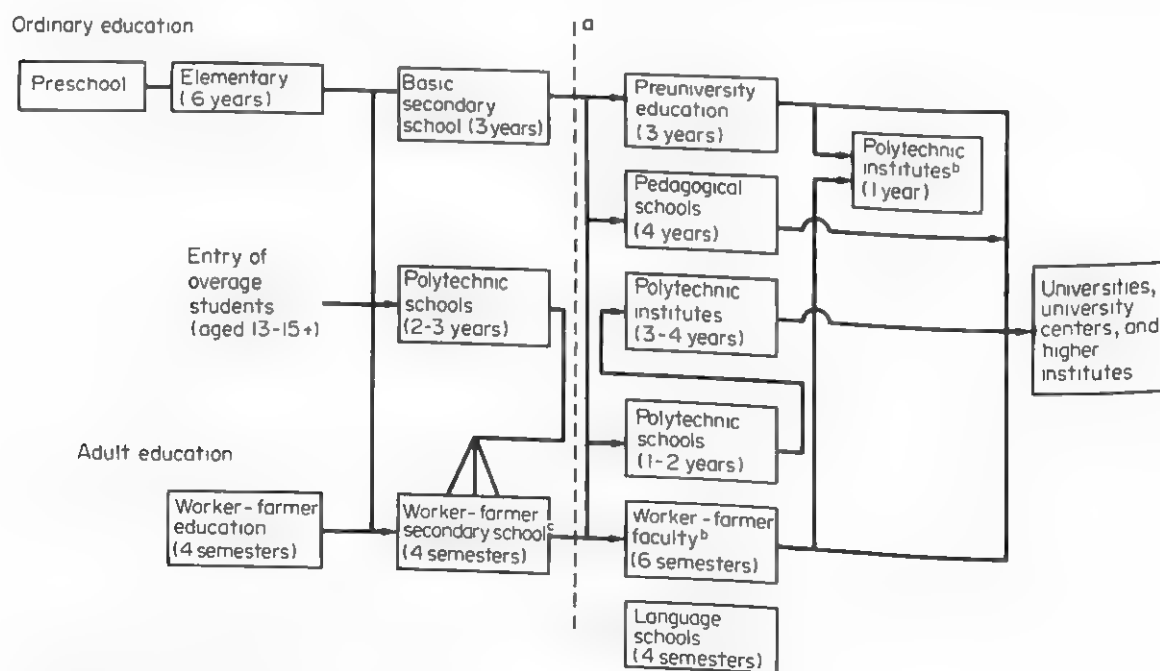
The national system of education has been designed as a set of elements or subsystems which are integrated into the overall structure (see Fig. 1). Consequently, they are considered as a whole and not separately or in isolation.

The system of education is organized in the following subsystems: (a) general polytechnic and labor education; (b) technical and vocational education; (c) teacher training; (d) special education; (e) adult education; and (f) higher education.

The system is structured into three levels: elementary, secondary, and higher education, with every student having the opportunity to proceed from the elementary to the higher stage. The system is also organized into two categories: ordinary courses for student-workers and parallel courses for worker-students, according to the criterion that every student should be trained to be a worker, while every worker should be a student who systematically attends to his or her technical and cultural training.

The present structure of the educational system, which was implemented throughout the nation in the 1977-78 school year, is as follows.

- (a) A 12-grade compulsory general polytechnic and labor education is required for enrollment in any one of the higher education specialties and is preceded by a preschool stage. At the age of 5, the child enters the preschool grade, with a duration of one school year, which constitutes the preparatory cycle for elementary education. General polytechnic and labor education is divided into:



a Requirements for continuing studies in technical and vocational education, teacher training, and inservice training for elementary-school teachers are shown by the broken line (---) b Higher education studies can be continued from place of work c Worker-farmer secondary-school graduates may also continue their studies in polytechnical schools and institutes

Figure 1
Structure of education

- (i) elementary education, grades 1–6, attended by 6–12-year-old children and divided into two cycles: the first or preparatory cycle, grades 1–4, and the second cycle, grades 5–6, in which the systematization by subjects or groups of specialized subjects is started; (ii) general secondary education, grades 7–12, comprising lower secondary (grades 7–9), where students continue the systematization of their studies by subject, and the preuniversity or in-depth, cycle (grades 10–12).
- (b) Technical and vocational education comprises two levels: the training of skilled workers in polytechnic schools through courses lasting from one to two years for ninth-grade graduates; and the training of mid-level technicians in polytechnic institutes through courses lasting from three to four years for ninth-grade graduates. Upon completion of these courses, the students have obtained a level equivalent to grade 12 of general polytechnic and labor education, besides the particular specialty they acquire.
- (c) Teacher training and upgrading education comprises two levels. Firstly, secondary pedagogical training, consisting of a four-course ordinary training of elementary- or special-education teachers in pedagogical schools, is for ninth-grade lower-secondary-school graduates, who upon completion of the teacher-training course have also acquired a 12th-grade level of general polytechnic and labor education. Secondly, a four-course higher education training in higher pedagogical institutes, for 12th-grade graduates, trains teachers for secondary-school specialties.
- (d) Special education for the physically and mentally handicapped.
- (e) Adult education for workers provides the content of general education, which is organized at three levels: a four-semester (two-year) elementary level (worker–farmer education) corresponding to elementary school; a basic secondary level (worker–farmer secondary school) similar to that of the lower-secondary general education; and a four-semester preuniversity level (worker–farmer faculty) corresponding to that of the higher-secondary general education.
- (f) Higher education is open to 12th-grade graduates of general polytechnic and labor education, with enrollment in any one of the scientific and technical specialties and ensuing postgraduate studies for all these specialties.

This structure also takes into account out-of-school or nonacademic education, of particular significance in conditions of economic and social development. Its objective is to complement, improve, or reinforce the teaching and educational work carried out by the school.

2.1 Forms of Schooling

At present (1982), there are three forms of schooling in the various subsystems of the national system of education: boarding, half-boarding, and day schools.

The policy at the elementary level is to maintain day schools with one or two daily class sessions. Boarding-elementary schools are created only in exceptional cases to solve family or social problems.

There are different modalities for the organization of school groups at the elementary level. Both in the city and in the countryside there are graded schools with a teacher for each grade. In rural areas there are also semigraded schools (graded for grades 1–4); concentrated schools (grades 5–6); and multigrade schools, with a small number of pupils of different grades, where enrollment cannot be concentrated.

Basic secondary and preuniversity schools in the cities are organized as day schools, whereas in rural areas they are boarding schools. These are the so-called “secondary schools in the countryside.”

Boarding vocational schools, for students who have obtained the highest marks in each province, provide a general secondary education with a strong vocational bias.

Polytechnic schools and institutes may be boarding or day schools. Both urban and rural boarding schools are also attended by half-boarders, and their objective is to train specialists for the nation as a whole or for the province where they are located. The day centers located in urban zones train specialists for the area where they are situated, which may comprise one or more municipalities, close to the students homes. Both kinds of center have evening courses for workers (Cuba 1979a).

Within adult education there are different kinds of teaching centers in order to meet the requirements of worker-students. These are largely evening, afternoon, or day external schools. When the work centers have adequate facilities, adult-education schools and classrooms may function on the premises. For those students who, because of the needs of their work, cannot attend ordinary adult courses, special schools are organized where they may study as boarding students for a specified period.

Higher education has a central network made up of universities, higher institutes, and university centers. The so-called branches and units are attached to the universities and higher education institutes and are located in different parts of the country in line with the universalization policy of higher education.

2.2 School Year

For all schools throughout the country, the school year begins on September 1 and ends on August 31. This period covers class time, evaluation, teachers’ methodological preparation and inservice training, holidays, teaching practices, and other activities related to school work.

At the elementary level of general polytechnic and labor education, the school course has 40 class weeks, structured in four uniform periods.

In basic secondary schools and preuniversity institutes in the countryside, the school year has 40 class weeks, structured in two semesters of 20 weeks each. In urban basic-secondary schools and preuniversity institutes, the school year has 34 weeks structured in two semesters of 18 and 16 weeks respectively, with another seven weeks for the students to carry out productive activities out of town, known as "school goes to the countryside."

In the technical and vocational education centers, the school year has 41 class weeks structured in two semesters comprising 20 and 21 weeks respectively and including the preprofessional practical work through which professional training is completed.

The calendar of pedagogical schools has 36 class weeks structured in two periods from the 1st to 3rd years. During the school year, five weeks are devoted to "school goes to the countryside" activities. During the 4th year of studies, 20 weeks are devoted to classes, 20 to teaching practice, and two to methodological preparation.

Higher pedagogical institutes have 36 class weeks for the 1st and 2nd years. Students are divided into two groups in the 3rd and 4th years, one group carrying out its teaching practice and the other attending classes, and vice versa, for 22 weeks each.

3. Enrollment

The initial enrollment of the 1977-78 school year exceeded that of the former year by 15,612 students and reached a total of 3,539,465 students in all types and levels of education. The following characteristics can be observed regarding enrollment.

- (a) A decrease of 53,776 in the number of elementary-school students due to a better promotion flow which eliminates overage students.
- (b) An explosive enrollment increase in secondary education of more than 135,000 students over the previous school year, reaching a total of 853,150

students, excluding students in schools attached to other agencies, such as the National Institute of Sports, Physical Education, and Recreation, the Childhood Institute, the Ministry of Public Health schools, military schools, etc. The greatest increase in secondary enrollment is in basic secondary schools, with 70,967 more students than in the 1976-77 period. Enrollment in technical and vocational education has increased by 28,148 students and preuniversity education by 39,512 students.

4. Finance

Educational costs, both current expenditure and investment (school buildings, equipment, etc.), are met by state funds approved in the state budget by the National Assembly of People's Power (see Table 1).

5. Educational Research

The Central Institute of Pedagogical Sciences, as the higher scientific organ of the Ministry of Education, fulfills the function of promoting the organization, development, and implementation of research in pedagogy and educational psychology along lines related to current problems of education and teaching.

Research focused on the following themes during 1978: (a) general methodological problems; (b) improvement of content, methods, and forms of communist education; (c) improvement of content, methods, and teaching aids; (d) problems concerning the management of the educational system; (e) improvement of the teacher-training subsystem; (f) pedagogical problems concerning adult education; (g) pedagogical and psychological foundations of the education of school-age children; and (h) scientific-pedagogical information and documentation.

6. Major Problems

In his speech of December, 1975, at the first Party Congress, Castro discussed "the mistakes of the past."

Table 1
Budgets 1975-78^a in millions of pesos

Year	Current expenditure ^b			Investment				Total
	Total	Wages	Other	Total	Buildings	Equipment	Other	
1975 ^c	669.1	375.7	293.4	139.4	113.4	25.7	0.3	808.5
1976 ^c	748.8	410.5	338.3	229.7	173.0	56.7	—	978.5
1977 ^d	618.1	368.0	250.1	131.7	112.2	18.5	1.0	749.8
1978	820.3	450.6	369.7	148.4	118.6	27.5	2.3	968.7

a Source: Cuba 1979a b Not including educational expenditure of other state agencies. c g., the Ministry of Higher Education, the Childhood Institute c Universities are included d The 1977 decrease compared to 1976 is due to the fact that the ensurment that up to that year had been covered by the education budget was organized by the enterprises in 1977

mistakes which included primarily the system of moral incentives and the attempt to avoid a systematic central planning. In his speech, he also argued that Cuba needed much more developed university training and overall technological orientation (until the early 1970s, the university faculties had grown very slowly, with emphasis being placed on primary and lower-secondary school).

The 1970s and early 1980s saw also a gradual decrease in the building of schools in the countryside. The predominant reason for this is perhaps that the need to shift Cubans to agricultural production seems to have diminished and the increased focus on industrial production has prompted Cuban planners to re-emphasize the urban secondary school. Similarly, university education has expanded rapidly since 1975, and much more emphasis has been put on economics and engineering than in the past. Cuba is gradually developing a more sophisticated form of central planning.

Like other socialist (or state-capitalist) countries, Cuba is developing an elite group of higher educated managers who, although they receive salaries which are no more than twice as high as the average worker, do receive other advantages such as possible access to a car, perhaps a somewhat better apartment, and the chance of living in a larger city like Havana. Such differences are very different from the analogous differences in capitalist countries, but they do tend to interfere with socialist ideals. Despite these criticisms, in Cuba it is possible for the mass of young people to achieve the highest levels of education available in Latin America today. Furthermore, equality of opportunity in Cuba is greater even than in most Eastern European countries. What Cuba will be like with a highly educated

and skilled population imbued over a long period with democratic ideals remains to be seen.

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Cyprus

E. I. Demetriades

Cyprus is an island of 9,251 square kilometres (3,572 square miles) in the northeast of the Mediterranean Sea and had a total population of 657,400 in mid-1984. Of its inhabitants, one-quarter live in the capital, one-third in the other five towns, and the rest in 598 villages. Its history begins with the Neolithic period in the sixth millennium and its first settlers, the Achaeans. Through the ages until 1960, it was successively conquered and ruled by, among others, the Phoenicians in 800 BC, the Persians in 540 BC, the Ptolemies in 294 BC, the Romans in 58 BC, the Byzantines in 400 AD, the Latins in the twelfth century, the Turks in 1571, and the British in 1878. Cyprus gained independence in 1960.

According to the first census of population in 1881, the population was then 186,173. It increased by an average annual rate of 1.3 percent between 1881 and 1931, 1.7 percent during the period 1931-60, 0.8 percent

between 1960 and 1973, dropped by 2.2 percent in the years 1974-76 as a result of the island's invasion by Turkey in 1974, and rose by 0.9 percent during the period 1976-84. Emigration and declining fertility have been the main determinants of population growth since 1960. Emigration averaged about 0.5 percent per annum during the period 1960-84, with high rates in the years 1960-62, 1964, and 1974-76, associated with political uncertainty in the island. The birth rate declined steadily from 2.6 percent in 1960 to 1.8 percent in 1973 and to 1.6 percent in 1975, and then increased to 2.1 percent in 1984.

According to the 1960 census, the ethnic distribution is 77 percent Greeks, 18 percent Turks, and 5 percent Armenians, Maronites, British, and others. The official languages are Greek and Turkish. English is used extensively.

Cyprus has a high level of literacy—over 90 percent—and a relatively skilled labour force. Professional and managerial groups account for 12 percent of the labour force, clerical, sales, and service workers for 30 percent, and agricultural, production, and related workers for 58 percent.

The main sectors of the economy are agriculture, manufacturing, and services. Agriculture continues to be an important sector, providing employment for about one-fifth of the labour force and contributing 10 percent to gross domestic product (GDP) and 25 percent of exports in 1984. Mining, one of the oldest and most important sectors in 1950–70 has declined, due to the depletion of exploitable deposits, and accounted for only 1 percent of GDP and 1.5 percent of exports in 1984. Manufacturing, chiefly of light industries, has grown in importance and accounted for about 17 percent of GDP, 22 percent of employment, and 73 percent of exports in 1984. The tertiary sector accounts for about 60 percent of GDP, with trade and tourism the main subsectors. Foreign trade is a key factor in the economy as a result of its small size and limited resource endowment. The import–export ratio was 2:1 and the ratio of imports and exports to gross national product (GNP) was 0.8 in 1984. The government, through economic development plans, plays a significant role in the economic and social development of the country.

The government is of the presidential type. Executive power is vested in a president elected by universal

suffrage for a five-year period. The president appoints a council of ministers. Legislative power rests with the house of representatives, elected for five years. The main political goal of government is the survival of Cyprus as an independent, sovereign, nonaligned, and unified state.

1. Goals of the Educational System

Before independence in 1960, the main goals of education were the inculcation of national ideals and strengthening national conscience against anticolonialism. The Orthodox Church of Cyprus had a significant influence and role in education.

Since independence, education has been given more importance and is considered the main means to better employment and a higher socioeconomic status. Government aims to raise the general standard of living of the people through better training of human resources to maximize productivity and better utilization of the available resources. Education is also seen as a basic human right, which the state should provide equally to all citizens. These expectations and the gradual emancipation of women could largely explain the increased demand for and expansion in education after 1960. In general, the aims of education are the development of free and democratic citizens and the fulfilment of the island's social, economic, and cultural needs.

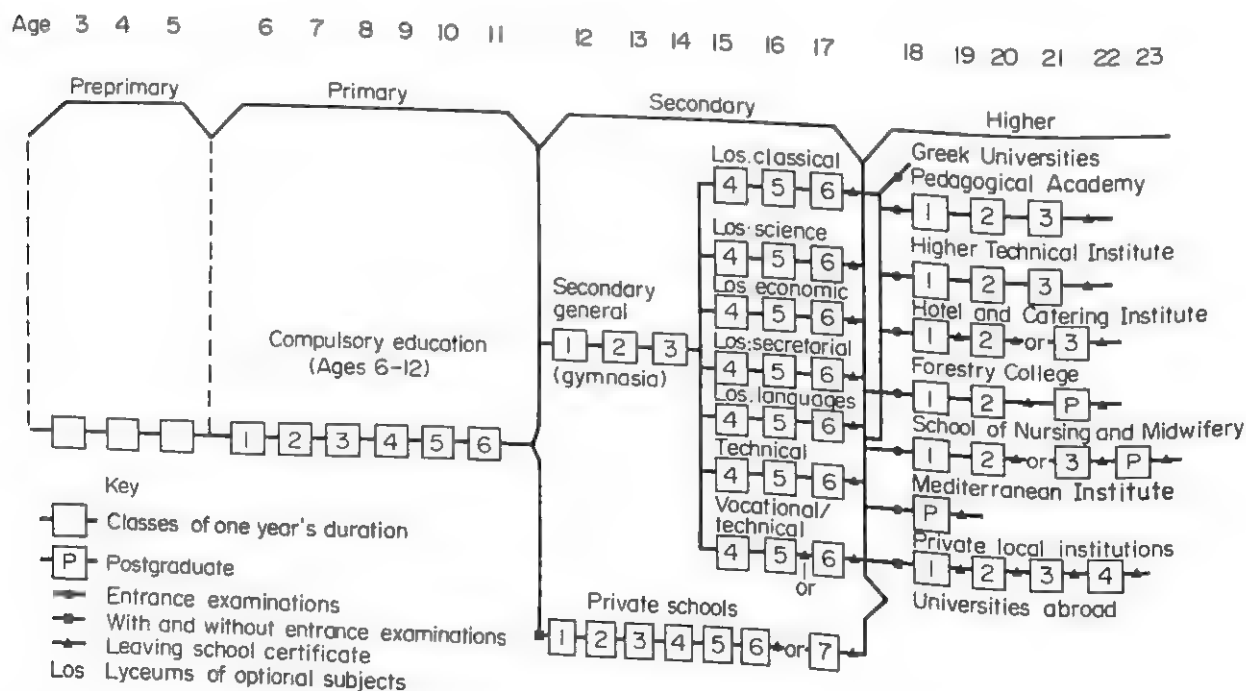


Figure 1
Organization of the school system

2. General Structure and Size of the Education Effort

Education in Cyprus is provided mainly through pre-primary and primary schools, secondary general and secondary technical/vocational schools, special schools for the blind, deaf, and other trainable handicapped persons, teachers' training, and nonformal institutions. University education is provided abroad. Education is mostly public but there are also a number of private schools.

Prior to independence in 1960, the educational system was developed mainly on a community basis. It consisted of 6-year primary schooling and 5- to 6-year secondary schooling. Primary education was the responsibility of government and was universal from the age of 6 but noncompulsory. Secondary education was provided at the gymnasia, which were communal based, and in private schools. In the gymnasia the classic curriculum was the basic core of education, while the private schools catered more for secretarial, commercial, and technical/vocational subjects. At both types of school, fees were paid. In addition, the Forestry College and the Teachers' Training College, both government sponsored, provided training in forestry occupations and for teachers, respectively.

After independence and until 1965, responsibility for education was assigned to the Greek and Turkish communal chambers. These exercised legislative power with regard to religion and educational and cultural matters in their respective communities. The chambers were independent but financed by government. In 1965, the chambers were dissolved and their legislative and administrative powers passed to the house of representatives and to the newly established Ministry of Education respectively. Under the ministry, the educational system evolved to its present structure, consisting of 1–2½ years of preprimary schooling for children aged 3–5½, 6 years of primary schooling for children aged 5½–11½, 6 years of secondary schooling, and 2–3 years of third-level education. The structure of the present system is shown in Fig. 1. (Due to lack of adequate statistical information no reference is made to the educational system of the Turkish Cypriot community. However, on the whole, there are no significant variations in the structure of the Greek and Turkish Cypriots educational systems. The size of Turkish Cypriot education in terms of schools, teachers, and students is about 18 percent of the total.)

The aim of each type of education may be summarized as follows. Preprimary education provides mostly day care for children and is concentrated in kindergartens and nurseries. Primary education aims to provide children with an all-round education. It has always been free and has been compulsory since 1962. Entrance to secondary general education is open to all primary-school leavers without any examination. Education in these schools consists of two stages. Stage 1, which is the same for general and technical/vocational schools,

comprises the first three grades, in which a common core course is taught, the emphasis being on general subjects and the humanities. Stage 2 comprises the last three grades, and specialization begins in the fourth year. Up to 1976–77, there were three streams: the classical, the commercial, and the science streams. As from 1977–78, the lyceums of optional subjects were introduced, in which students can choose one of the five main fields of specialization—classical, science, economic, commercial/secretarial, and languages. This system is now fully implemented.

Public technical and vocational schools aim at providing industry with technicians and craftsmen. The first cycle of studies (three years) is the same as for secondary general education while the second cycle commencing in the fourth year is divided into two sections, technical and vocational. The technical section lays emphasis on mathematics, science, and technical knowledge and skills in various specializations, such as machine operating and fitting, automobile mechanics, electronics, electrical installations, building, and graphic art. The vocational section provides training in mechanical and electrical engineering, building and construction, hotel and catering, dressmaking, and pottery.

Special education provides education at primary- and secondary-school level and vocational training to handicapped children of all ages. It includes schools for the blind, deaf, and other trainable handicapped persons.

There is no university in Cyprus and no institution offers any award above the level of the Higher National Diploma of the United Kingdom. Cyprus provides third-level education to about one-tenth of its postsecondary students in five public and nine private institutions, while the rest pursue their studies abroad, mainly in Greece, Turkey, the United Kingdom, and most recently in the United States and Canada. The public institutions are: (a) the Pedagogical Academy of the Ministry of Education, which provides a three-year course for teachers of primary schools and kindergartens; (b) the Higher Technical Institute of the Ministry of Labour and Social Insurance, which offers a three-year course for technician engineers in mechanical, electrical, civil, and marine engineering and for technical-school teachers; (c) the Forestry College of the Ministry of Agriculture and Natural Resources, which offers a two-year training in forestry; (d) the School of Nursing and Midwifery of the Ministry of Health, which offers a two- or three-year course in general nursing, midwifery, and psychiatric nursing; and (e) the Hotel and Catering Institute of the Ministry of Labour and Social Insurance, which provides education and training at the middle and higher level for senior hotel and catering staff.

Private institutions offer two- to four-year courses in such fields as business administration, secretarial studies, electrical, mechanical, and civil engineering, wireless communications, hotel and catering, banking, accountancy, and computer studies. In most cases, their

Table 1

Number of schools, teachers, and students by level of education in 1960-61 and 1984-85

Level of education	1960-61			1984-85		
	Schools	Teachers	Students	Schools	Teachers	Students
Preprimary	14	27	603	374	592	15,607
Primary	548	1,940	68,773	396	2,193	47,381
Special schools	3	28	163	13	135	650
Secondary general	42	948	25,101	93	2,643	43,511
Secondary technical	3	79	787	12	483	5,241
Third level	3	30	367	15	250	2,580
Total	613	3,052	95,794	903	6,296	114,970
Public	570	2,623	85,279	667	5,373	97,480
Private	43	429	10,515	236	923	17,490

examinations are associated with overseas examining bodies.

Nonformal education includes a variety of public and private part-time institutions which provide miscellaneous courses at various levels. Public and semipublic nonformal education is provided through: (a) the apprenticeship training scheme and the evening technical classes of the Ministry of Labour and Social Insurance, which enable young, industry-based trainees to obtain a three- to four-year technical-school training or retraining in various trades; (b) the industrial training authority organizes accelerated vocational training and retraining courses, which are usually subcontracted to suitable institutions; (c) the productivity centre provides courses for upgrading and/or training of managerial and supervisory personnel and skilled workers; (d) the *Mediterranean Institute of Management* provides a one-year course in management for university graduates; (e) the evening gymnasia enable adults to complete their secondary education; (f) the institutes of foreign languages offer courses in languages, commerce, and other subjects; and (g) further education centres offer a number of evening adult courses in general knowledge, agriculture, domestic science, child care, health, community welfare, and other subjects. These programmes have been useful and quite successful.

Private institutions offer various courses, including foreign languages, music, and secretarial or vocational skills. Some provide coaching for external examinations especially for British and American examining bodies.

Education has undergone significant expansion since independence in 1960. Table 1 compares enrolment in full-time formal education in 1960 and 1984. In nonformal education, in 1984-85, there were about 35,000 students and 820 teachers on a part-time basis as well as 190 full-time teachers, compared to relatively very small numbers in 1960. The number of students studying abroad reached about 10,100 by 1984, as compared to a couple of thousand in the 1960s. The evolution of the

number of students since 1960 by level of education is shown in Fig. 2.

Before 1974, preprimary education was mostly in private institutions. Due to the Turkish invasion, the occurrence of labour shortages, and the rising female labour participation rates, government expanded preprimary education. By 1984, children in the preprimary school constituted 53 per cent of the relevant age group.

In the absence of a university, secondary education assumed an important role in the overall educational policy. It was through secondary education that government implemented policies and influenced developments in trying to achieve its aim of equalizing opportunities and meeting the personnel needs of economic development. Thus, more resources were devoted to secondary education. By 1984, nearly 98 per cent of the primary-school leavers proceeded to secondary schools, with no significant variation between boys and girls. Dropouts and failures stood at 1.6 per cent and 4.4 per cent of enrolments respectively.

Again in 1984, about 40 per cent of graduates of

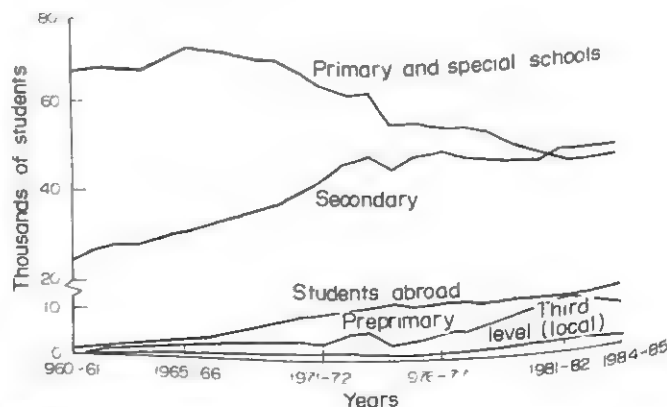


Figure 2

Enrolment of students by level of education 1960-85

secondary schools proceeded to third-level education and the majority, about 64 percent, followed courses abroad. The number of female students abroad grew sharply during the 1970s and accounted for almost 90 percent of the student increase.

3. Administration

Educational administration is highly centralized. The Ministry of Education is responsible for the enforcement of educational laws and the preparation of education bills. The highest authority in educational policy making is the council of ministers.

The Ministry of Education is advised on its policies by the educational council, a widely representative body consisting of representatives of the church, the parliamentary committee for education, parents' associations, teachers' unions, and employers' associations.

Appointments, secondments, transfers, and promotion of teachers and inspectors are the responsibility of the educational service commission, an independent five-member body, appointed by the president of Cyprus for a three-year period.

Matters such as the construction, maintenance, and equipment of school buildings are delegated to school committees. In urban areas, these committees are appointed by the council of ministers while in the rural areas they are elected by the village communities. In the case of primary schools, the committees are identical with village authorities but for secondary schools the council of ministers appoints a school committee which is usually different from the village authority.

The Ministries of Labour and Social Insurance, Agriculture and Natural Resources, and Health, formulate educational policies and administer the special educational and training programmes under their authority.

Private schools are owned and administered by private individuals or bodies but are supervised by the Ministry of Education.

4. Finance

Public education is financed mainly by government and local authorities, and private education by individuals and private concerns and, in the case of private foreign-language schools, by overseas authorities and organizations.

Public education is not financed in the same way or to the same extent at all levels. In primary education, which is free, the government pays the salaries of teachers and awards annual grants to all local authorities according to the number of students. The cost of capital investment is borne by the communities, who levy a school tax. In the case of poor rural communities, the government may subsidize substantially the cost of school buildings. Free public secondary general education has been gradually introduced since 1972 and by 1981 covered the first three grades and partially the

fourth and fifth. For the sixth grade, tuition fees have to be paid and are of two kinds: regular tuition and registration fees, which are fixed and go into the state revenue, and additional tuition fees, which vary for each pupil according to the financial means of the parents and are placed in the internal fund of the school committees. The government is responsible for the salaries of teachers, scholarships, grants-in-aid based on enrolment figures and urban/rural balance, as well as additional grants to help the poorer school committees.

In secondary technical schools, there are no tuition fees and both current and capital expenditure is borne by the government. For public nonformal education, fees are paid and the government covers expenditure, which usually exceeds revenue. Public third-level institutions are financed in various ways as they come under different ministries. In some, students receive a monthly subsistence allowance, in some, they pay small tuition fees, and in some, they do not pay fees but pay for their boarding. Public special schools are financed by government and no fees are paid. Private educational institutions are financed mainly from tuition fees.

Government expenditure on public education has risen significantly since independence and in 1983 stood at 12.5 percent of the country's budget and 4.1 percent of GNP. Public and private expenditure on education stood at 6.3 percent of GNP in 1980-83.

Some 60 percent of expenditure on public and private education in 1982-83 came from state budget funds, 3 percent from local authorities and school committees, 9 percent from private sources, 27 percent from private students' expenditure abroad, and 1 percent from foreign aid. Preprimary education absorbed 4 percent of total expenditure on public and private education, primary 23 percent, secondary general, technical, and vocational 37 percent, local postsecondary 3 percent, general administrative expenditure (not allocated by level of education) 6 percent, and studies abroad 27 percent. Private expenditure accounted for 36 percent of all expenditure on education and is mostly for studies abroad. Private resources come from parents' savings, loans, gifts, and donations. Foreign aid consists chiefly of books and materials. Scholarships, usually for tuition fees, are awarded to students in secondary education with a high attainment and from low-income families. For studies abroad, scholarships, grants, and loans are available. Scholarships are offered by the Cyprus government, foreign governments, international organizations, and local financial institutions. Grants and loans are provided mainly by government, banks, religious organizations, and cooperative credit societies.

During the academic year 1984-85, 86 percent of the students studying abroad were privately financed, 9 percent were on scholarships, 4 percent were on Greek government assistance, and the rest were financing their education from part-time employment and from other means.

The unit cost per student for public and private schools, in 1982-83, measured in terms of recurrent and

capital expenditure, was C£236 for preprimary, C£357 for primary, C£508 for secondary general, C£746 for technical schools, C£1,325 for special schools, C£1,284 for local third-level education, and C£1,740 for students abroad. The unit cost of capital expenditure ranged from C£13 for primary schools to C£85 for third-level institutions.

5. Supply of Personnel

Teachers at all levels and types of school are qualified. Primary-school teachers must hold a diploma from the pedagogical academy. In secondary general and technical schools, teachers are mostly university graduates or possess equivalent professional qualifications. Teachers in special schools attend special courses abroad.

The pedagogical academy offers a three-year theoretical and practical training course. The pedagogical institute provides for professional and further training of general and technical secondary-school teachers. Further training of teachers is also obtained abroad. Inspectors are responsible for the guidance, supervision, evaluation, and inservice training of teachers.

There are no shortages in instructional or other personnel at any level or in any type of education. In fact, there is a large surplus of secondary-school teachers in all pertinent specializations.

Employment in the educational system, private and public, in the school year 1984-85 amounted to about 8,600 full-time persons. Of these about 6,700 are teachers and 1,900 nonteaching staff.

6. Curriculum Development and Teaching Methodology

Curricula for preprimary, primary, secondary general and technical/vocational schools, and the pedagogical academy are prescribed by the Ministry of Education and developed on the basis of suggestions made by teachers, inspectors, school boards, and the pedagogical institute. These curricula are uniform for all regions and regular inspection by the Ministry of Education ensures their implementation. Committees of teachers and inspectors produce material for both traditional and new subjects, which are sent to schools for testing. Postsecondary technical/vocational curricula are drawn up by the relevant ministry on the advice of an institution's board of governors or specialist committees, in accordance with the government's educational policy. The curricula for private schools at all levels are drawn up and developed according to the specific needs of the target groups they aim to serve. Extracurricular activities include music, games, athletics, art, boy scouts, girl guides, first-aid, and the development of leisure pursuits.

Conventional classroom teaching is supported by the use of audiovisual aids, tape recorders, projectors, tele-

vision, and pictures. More and more teaching aids are being introduced and activity methods are widely used. Since 1969, educational radio broadcasts have been introduced. The steady decrease in the pupil-teacher ratio has made it possible for more emphasis to be given to the individualization of instruction and the introduction of remedial teaching.

The main problems faced today in the areas of curricula and teaching methods are the need to relate education to employment, the new role the teachers are called upon to play as a result of, for example, the introduction of new subjects, the decreasing motivation of students, and the need to prepare them for all aspects of life and to take over responsibilities traditionally considered to belong to the parents. There is an increasing need to update subject matter to make it more relevant and interesting and to develop new teaching materials to enable teachers to individualize their teaching and help students acquire basic skills of study and creative work.

The timetables in public schools of all levels are spread over six days, Monday to Saturday, and are confined to the morning hours. The introduction of a five-day week is being considered. Private schools operate mostly on a five-day week.

7. Examinations, Promotion, and Certification

For public primary and secondary general and technical/vocational schools (but not for third-level institutions) there are no entrance examinations.

Assessment in primary, secondary, and third-level institutions is mostly continuous and internal. There is no repeating of the same year in primary schools, except in exceptional cases, but grade repeating does occur in secondary general and technical schools. The number of failures, however, in these schools is steadily decreasing as a result of remedial teaching, new promotion regulations, and assessment that also involves motivation, cooperation, and classroom participation with a consequent decrease of the weight put on end-of-year examinations.

Promotion in primary schools is through a performance report at the end of each school year. In secondary schools, promotion is on the basis of a performance report, which gives a student's average marks at quarterly assessments in the various subjects. There is no uniform system of examinations in all schools. A school-leaving certificate specifying the marks in each subject is issued by the Ministry of Education to each graduating student.

In private schools, the curricula followed are usually different from those of public schools and are not considered equivalent. Consequently private-school graduates cannot attend higher courses abroad which demand equality with public schools. The Ministry of Education holds special examinations for those wishing to obtain a certificate equivalent to the leaving certificate of a public school.

Third-level-education institutions award their own diplomas and certificates to graduating students.

8. Educational Research

Educational research is limited, due mainly to financial constraints, lack of a research tradition, and the absence of a university. Educational research is carried out mainly by the pedagogical institute and the educational psychology unit of the Ministry of Education and is related to educational priorities, such as inservice training of teachers, evaluation of curricula, teacher self-evaluation, and the attainment of students. The main educational issues researched in the 1960s and 1970s were: private coaching for primary- and secondary-school pupils; inservice training of teachers; population trends and vocational aspirations of students in secondary schools; mathematics evaluation in primary schools; Greek university entrance examinations; levels of ability of pupils entering secondary technical schools; and language and mathematics evaluation in secondary schools.

The Cyprus Pedagogical Research Association, a nonprofit-making society, conducts research in various educational areas. Individual studies that serve as the subject matter for doctoral and master's theses for universities abroad are also a significant contribution to educational research.

9. Major Problems

During the 1970s there was a significant rise in the number of Cypriots studying abroad, an increase in university-graduate unemployment and foreign exchange spent on education abroad, and serious imbalances between fields of study and the needs of the economy. A major reevaluation of educational policy is therefore necessary to achieve better integration of education with economic policy so that it meets more

effectively the overall needs of society, the individual, and the economy. A Technical Committee has been set up to study and make recommendations on the organizational, functional, financial, and other practical problems associated with the establishment of a university. This is expected to save foreign exchange as well as providing education within the country.

Other major problems are the insufficiency of school buildings and laboratory equipment especially for technical/vocational education, the relatively large sizes of classes in secondary general schools, and the need for modern technological teaching aids. There is need to expand further technical/vocational and managerial education to meet the personnel demands of the fast-growing industrial sector. The government through its development plans is providing financial assistance for the expansion of school accommodation, the introduction of new training programmes, and a qualitative improvement of education.

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Czechoslovakia

S. Petráček

The Socialist Republic of Czechoslovakia is an economically advanced Central European country. A state of two nations, the Czechs and the Slovaks, it was established in 1918. Czechoslovakia borders on the Soviet Union, Poland, the German Democratic Republic, the Federal Republic of Germany, Austria, and Hungary. The country's total area is 127,889 square kilometres (49,378 square miles), of which 78,864 square kilometres (30,449 square miles) comprises the Czech Socialist Republic and 49,025 square kilometres (18,929 square miles) comprises the Slovak Socialist Republic.

The capital of Czechoslovakia, and also of the Czech Socialist Republic, is Prague, with an area of 495 square kilometres (191 square miles) and a population of 1,182,294 in 1981. The capital of the Slovak Socialist Republic is Bratislava, with an area of 368 square kilometres (142 square miles) and a population of 385,165 in 1981.

In 1980, Czechoslovakia had a population of 15,276,799, of which 10,288,946 were in the Czech Socialist Republic and 4,987,853 in the Slovak Socialist Republic. Of this total 9,818,618 were Czechs, 4,664,460 Slovaks, 47,554 Ukrainian, 7,630 Russian, 67,923

Polish, 579,617 Hungarian, 61,917 German, and 29,080 of other nationalities.

The population density is 120 per square kilometre. The population lives in 7,503 communities, of which 0.1 percent have more than 100,000 people. Women constitute 51.23 percent of the total population and 46.1 percent of the economically active population. Economically active persons make up 50.43 percent of the total population. In terms of age in 1980, 24.1 percent of the population were in the under-15 group, 7.4 percent in the 15 to 19 group, 23.7 percent in the 20 to 34 group, 22.9 percent in the 35 to 54 group, 6.1 percent in the 55 to 59 group, and 15.8 percent in the 60 plus group.

The class and social composition of the economically active population is characterized as follows: workers 62.1 percent; other employed persons 28.6 percent; cooperative farmers 7.4 percent; other cooperative producers 1.5 percent; small farmers 0.3 percent; and other self-employed people 0.1 percent.

The natural population increment per every 1,000 people was 4.1 percent in 1980, having decreased from

11.1 percent in the 1950 to 1954 period. In 1980, just over 7.3 million persons were employed (compared with 6.9 million in 1970), of which 76.5 percent were in productive and 23.5 percent in nonproductive sectors.

Of the total number of persons employed in the productive sectors, the percentages in different subsectors were 16.9 in agriculture, 1.7 in forestry, 49.5 in industry, 11.4 in the construction industry, 0.3 in geology, 1.3 in project design, 4.0 in transportation, 0.9 in telecommunications, 11.3 in domestic trade, 0.5 in foreign trade, 1.2 in material and technical supplies, 0.7 in purchases of farm products, and 0.3 in publishing. Of the total number of persons employed in the non-productive sectors, the percentages in subsectors were: 9.0 in transportation, 3.2 in telecommunications, 9.4 in research and development, 5.4 in housing administration, 1.4 in hotel services, 0.2 in the tourist trade, 8.0 in municipal services, 21.4 in education, 7.4 in culture, 3.1 in social organizations, 16.7 in the health services, 2.9 in social care, 2.8 in commercial and technical services, 1.5 in banking and finance, 0.5 in insurance, 6.9 in administration, the judiciary pros-

Table 1
Selected indicators of the national economy, 1948-80

Indicator	Unit	1948	1960	1970	1980
Social product	milliard Kčs (stable prices)	130.6	348.2	677.2	1,175.4
Growth of social product (1940 = 100)	%	100	267	442	702
Production consumption	milliard Kčs (stable prices)	60.4	172.2	396.4	722.3
Generated national income	milliard Kčs (stable prices)	70.2	176.0	280.8	453.1
Per capita generated national income	Kčs (stable prices)	5,686	12,892	19,591	29,593
Growth of generated national income (1948 = 100)	%	100	251	386	610
Growth of per capita generated national income (1948 = 100)	%	100	227	332	492
Distributed national income	milliard Kčs	71.0	171.6	271.1	437.6
Per capita personal consumption	Kčs	4,389	7,954	10,943	15,306
Growth of per capita personal consumption	%	100	181	260	335
Growth of real wages of blue- and white-collar workers (1955 = 100)	%	—	124.7	158.5	194.5
Money income of the population	million Kčs (stable prices)	—	121,050	226,358	356,819

ecutors' offices, and arbitration, and 0.1 in other activities.

In 1978, 420,956 university graduates were active in the Czechoslovakian national economy, against only 157,063 specialists with this qualification in 1960 (a growth index of 268). A total of 630,881 specialists with complete secondary-vocational education worked in the national economy in 1960 and 1,338,631 in 1978 (a growth index of 212). Some 52.4 percent of the specialists were women.

To some extent, the above employment figures indicate the structure of the national economy. Its characteristics are further defined by the selected data presented in Table 1.

Czechoslovakia is a federal state. The federal arrangement has been established on the basis of the socialist social system, which finds its expression in the political system, the social and class composition of the society, the socialist economic system, and Czechoslovakia's integration into the world socialist system. The Czech Socialist and the Slovak Socialist Republics are built on the principles of socialist democracy, and their political systems are the same in basic respects. The political system expresses the general laws of the construction of socialism, and the socialist system of Czechoslovakia is produced by the unity of its three elements: its core and the leading force is the Communist Party of Czechoslovakia, together with the socialist state as the principal instrument of social change, and the National Front, composed of the social organizations and noncommunist political parties, together with the Communist Party.

The leading force of social development is the working class, which, in union with the class of the cooperative farmers and socialist intelligentsia, is the basis of socialist political and state power. The Communist Party of Czechoslovakia has the leading role in society and the state.

1. Goals of the Educational System

The universal aim is to educate an increasing number of high-quality builders of the socialist society. They should be developed in an all-round and harmonious way; have a communist approach to work; be able-bodied; capable of active involvement in social and public activities, of working successfully in different spheres of the economic and social life of the society, and of protecting and enhancing the wealth of society. Finally, they should be ready to defend selflessly the socialist homeland and the community of socialist countries.

2. Structure of the Educational System

Education in the Socialist Republic of Czechoslovakia is the responsibility of the entire society. The family, the state (particularly the national committees), the organizations of the National Front, economic organ-

izations, and other institutions cooperate closely to ensure a good education. The system described here should be fully in force in 1984.

The basis of the Czechoslovakian system of education is the unified system of schools and educational establishments with a work and polytechnical character. Attendance is mandatory for children and young people in the 6-to-16-year age group. Schools of the same grade and orientation have the same national curricula and syllabi as well as the same textbooks, which respect the specific requirements of the different nationalities; a unified educational work programme is mandatory for crèches and kindergartens.

Czech and Slovak are the languages of instruction in schools in Czechoslovakia. In the preschool facilities and elementary and secondary schools established for the children and young people of Hungarian, Ukrainian, and Polish nationalities, the language of instruction is the particular mother language.

An important role in the education of children and youth is played by the Socialist Union of Youth and its Pioneer Organization, and by the Revolutionary Trade Union Movement. Industrial and other companies and their plants, cooperatives, and social organizations help to generate favourable conditions for the implementation of the political function of the schools and of their work and polytechnical character.

All schools and educational facilities are public institutions, accessible to all citizens on equal terms, regardless of nationality, sex, property status, or social origin. Study in schools of all educational levels and types is free. The efforts of the citizens to obtain the highest possible education is an important element of the policy of a socialist state.

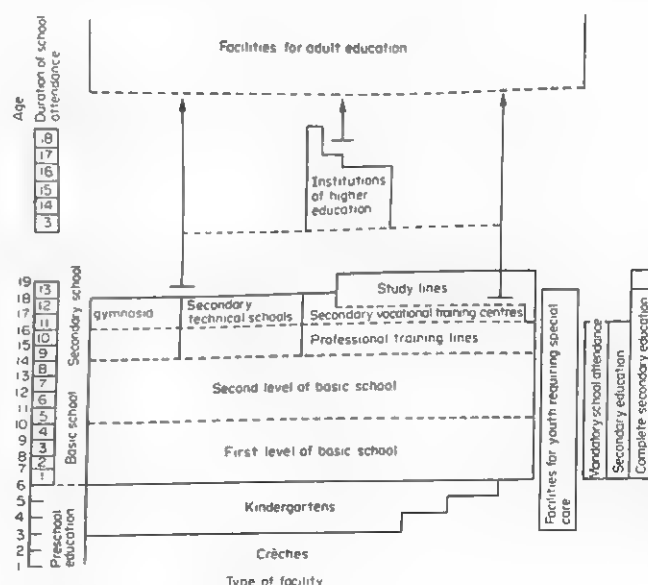


Figure 1
Structure of the educational system

Table 2
Basic indicators of the development of the educational system, 1953–80

Indicator	1953	1970	1980
Students and pupils at various types of schools:			
kindergartens	219,324	377,593	694,720
basic schools	1,787,000	1,966,000	1,904,000
secondary schools	190,485	396,445	513,826
Institutions of higher education, total enrolment	60,854	131,099	196,642
in day study	47,194	195,015	147,862
of which:			
Czechoslovak citizens	46,738	102,015	147,862
of which:			
women	10,906	40,974	63,627
foreign students	456	3,619	3,642
in extramural studies	21,660	25,465	45,138
Teachers at various types of schools:			
kindergartens	13,748	28,562	47,290
basic schools	64,832	97,712	90,380
secondary schools	13,000 (est.)	17,009	26,090
institutions of higher education	6,573	16,402	18,320
of which:			
professors and associated professors	1,158	3,627	4,589
others	5,415	12,775	13,731
Average number of apprentices	—	323,700	356,900

The Czechoslovakian system of education is designed as an integrated whole, and consists of crèches and kindergartens for children up to the age of 6, basic schools (the first level comprises forms 1 to 4, and the second level forms 5 to 8), secondary schools comprising secondary vocational apprentice-training centres, grammar schools (so-called *Gymnasias*), secondary technical schools and conservatories, institutions of higher education, and institutions of adult education (see Fig. 1).

Children and youth requiring special care receive education at the preschool, basic-school, and secondary-school levels in special education facilities.

The Czechoslovakian system of education also includes people's schools of arts, people's schools of languages, and language schools, other educational and social institutions, including those dealing with the guidance and counselling of youth. Table 2 characterizes the development of the system of education from 1953 to 1980.

Adult education is an integral part of the educational system, a follow-up to the education which the younger generation receives in schools, in the family, and in social organizations, particularly in the Revolutionary Trade Union Movement and the Socialist Union of Youth.

The process of adult education is characterized above all by the fact that its content and methods take into account the needs of the working people, their previously acquired knowledge and experience, and the specific needs of the individual and the age group; and that the process employs, to a greater degree than does formal education, active teaching methods, teamwork, etc.

3. Administrative and Supervisory Structure and Operation

The Ministries of Education of the Czech Socialist Republic and the Slovak Socialist Republic control, coordinate, and inspect the fulfilment of tasks in education in the schools and the education facilities under their control, or under the control of other ministries, central authorities, national committees, and social organizations. The Ministries of Education plan the well-balanced development of the educational system in the different regions of Czechoslovakia. On the basis of resolutions of the Communist Party of Czechoslovakia, the national laws, and decisions by the two governments, the ministries lay down mandatory long-

term and short-term tasks in the political, ideological, personnel, pedagogical, and economic spheres.

The ministries establish research and development facilities, publishing organizations, and production and distribution organizations to deal with theoretical and conceptual problems and provide the necessary material and technical conditions. National committees at all levels play an important role in this respect. In harmony with the demographic development of the different regions and the requirements of the national economy, the national committees are responsible for control of education and instruction, for shaping the personnel, organizational, and material conditions for successful pedagogical activities in all education except higher education and out-of-school education.

Institutions of higher education, as important educational, scientific, and cultural institutions, are under the direct control of the Ministries of Education. The ministries exercise ideological and methodological control, coordination, and inspection of the system of adult education (in the process of establishment in the early 1980s), as an integral part of the comprehensive system of education. Inservice training of employees and company education is controlled by the respective ministries, central authorities, general directorates, enterprise managements, cooperatives, and national committees.

4. Finance

Education in Czechoslovakia is free, as a matter of principle. Pupils and apprentices in basic and secondary schools receive textbooks and basic-school requisites free. Pupils, students, and apprentices are provided with medical care and safety and health insurance during their school attendance. Pupils and students with less favourable social backgrounds are entitled to social-care scholarships and successful university students to scholarships for study excellence. Pupils and students can obtain large reductions in fees for public transport, school catering, and accommodation in student hostels. Institutes of higher education offer considerable opportunities for borrowing textbooks and study aids.

Expenditures on education, which form part of cultural and social expenditure, show a steady growth trend. In 1980, the state budget and the budgets of the national committees earmarked 47.4 percent of their total expenditures for cultural and social measures (compared to 40.2 percent in 1965). In the Czech Socialist Republic, for example, 10 percent of all expenditure in the state and national committee budgets was spent on education in 1980. Of the total expenditure on the development of education, 36.6 percent of the state budget and 52.5 percent of the national committee budgets financed the salaries of educational personnel. Of the state and national committees capital-investment budgets, 12.25 and 4.5 percent respectively went to education in 1980.

5. Supply of Personnel

In 1980, 394,736 people were employed in the educational system, roughly 6 percent of all employees in the socialist sector of the national economy (other than the Unified Agricultural Cooperatives), 11 percent more than in 1975. While one cannot speak of a shortage of labour in the system of education, there is a constant demand for personnel as a result of the increasing demands of the system.

Female kindergarten teachers are trained at secondary teachers' schools, sit postsecondary school-leaving examinations, or train in service. Teachers for the first level of basic schools are trained in four-year courses at higher education institutions. Other teachers have four- to six-year courses at institutions of higher education.

Inservice education includes postsecondary and postgraduate study; functional and recurrent training of executives; ideological and political education; and training for work with new teaching plans, curricula, teaching aids, educational technology, etc. Inservice education is practised as a system of lifelong education in three stages: the induction training, the study of innovations, and specialization. Between the different stages, there are voluntary courses to study topical educational subjects—new content, methods, means of educational work, and the like.

6. Curriculum Development and Teaching Methodology

The emphasis of the curriculum in all schools is a function of a general and theoretical education that speeds up adjustment and specialization and facilitates the transition to new professions. This approach to education amounts to more than the sum of general knowledge; its basis is the capability to find an independent way in the continuous and increasingly fast flow of scientific information, with the objective of selecting, and making rational use of, the most required items. In this way, education enables individuals to perceive the purpose of their concrete participation in social practice, to find a place in the work process, and to develop their own personalities in suitable ways.

The two Ministries of Education organize teams of prominent scientific educational and research workers and the best teachers and other specialists for drawing up the syllabi and curricula for the different subjects. After their endorsement by the ministries, the syllabi and curricula are mandatory for the whole of Czechoslovakia. The same applies to textbooks, teaching aids, etc.

Uniform methods of controlling the teaching and learning process exist for all Czechoslovakia. A guarantee of their unity is that the institutions of higher education which train teachers and the system of inservice education of teachers operate under identical principles.

7. Examinations, Promotion, and Certification

In Czechoslovakia, all young people must complete the eight-year basic school, and then study at least two further years in a secondary school. The basic school is open to all and is completed with a school-leaving certificate. Admission to any type of secondary school is by entrance examination. The school-leaving certificate from a secondary school (the *maturita*) and a successful entrance examination are the conditions for admission to study in an institution of higher education. Maximum harmony is sought between enrolments and the requirements of the national economy and of society.

8. Educational Research and Development

The uniform state plan of scientific and technical development is the basic instrument of control of research and development activities and performs a coordinating role. The plan is an integral part of the state plan of national economic development. The research and development facilities of the two Ministries of Education, as well as those of the institutions of higher education, are a part of the nationwide research and development network.

Research and development activities concentrate above all on major problems to be solved in the interests of developing science, technology, and social practice. Research and development also deals with problems of communist education, pedagogy, psychology, and the economics of education. The results are expected to facilitate continuous structural and content updating of the teaching and learning process.

9. Future Aims

From the early 1980s, for the following two decades, the principles embodied in the document on the further development of the Czechoslovakian system of education, which was endorsed by the supreme party and government authorities in 1976, will be applied in full. The conditions will be completed for the gradual introduction of complete secondary education for all youth and for enabling an increasingly large number of young people to acquire university-level education. In a parallel way, the system of lifelong education will be intensified, in the interest of preparing youth and all working people well ahead for the successful fulfilment of their future tasks. In accordance with the changing requirements of socialist production and social activity, the content and volume of subject matter at the different levels and in the different types of schools will be modified, the general-education and polytechnical element of subject matter will be enhanced, and care will be taken to provide secondary and higher school graduates with a sufficiently broad competence to make possible their rapid adjustment to working life. Care will be taken to link the content and organization of the educational system directly with the life and work of

the people, to make it respond flexibly and promptly to any newly emerging requirements.

Extraordinary care will be devoted to the intensification of the system of education toward scientific ideology, proletarian internationalism, and socialist patriotism. The development of the different branches of study and apprentice training will be more closely geared to the long-term needs of society, and priority will be given to the development of technical branches and apprentice-training lines for qualified worker cadres. The development and structure of the institutions of higher education, and the content and forms of study, will be effectively adjusted to the long-term needs of the economy and of scientific and technical development. Conditions will also continue to be enhanced for scientific-research activities in higher education institutions, particularly to improve their efficiency.

The efforts in educational content and methods will be backed by effective organizational measures in personnel policy and financing, in the interest of the rational utilization of the education sector's labour force. The overall principle will be to introduce further qualitative improvements in the already broad system of education of youth and adults so as to preserve its favourable impact on sociopolitical, economic, and cultural development and on the improvement of the Czechoslovakian people's standard of living.

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Denmark

J. Florander

Denmark is a small lowland country covering 43,069 square kilometres (16,629 square miles). It has a population of 5.114 million with an average of 116 persons per square kilometre. The net population increase has for many years been decreasing and was in 1983 -0.9 percent.

Until 1945, Denmark was an agricultural country, 37 percent of the population living in rural areas. Education was provided in many small rural schools as well as in the fewer but larger urban schools. At the beginning of the 1980s, only 8 percent of the workforce was engaged in agricultural work whereas the industrial sector engaged 27 percent and the tertiary sector comprised 62 percent. The number of schools for compulsory education had diminished to 2,289 by 1985.

The Danish mother tongue is spoken all over the country except in the border region next to Germany and in the Faroe Islands and Greenland, both of which have home rule.

In 1983, 11 percent of the workforce was unemployed and there was negligible economic growth. This has had an impact on the educational system. Many more pupils stay at school beyond the obligatory nine years, preferring this to unemployment. In 1980, parliament made a resolution in principle on youth education, the aim of which was to give each pupil a genuine opportunity for acquiring "relevant education".

Denmark is a kingdom ruled according to the principle of parliamentary democracy. Since the 1930s the Social Democrats have been in power most of the time. The Social Democratic ideal of equality has greatly influenced the school structure in bringing about a still more comprehensive educational system. In 1958, schools were allowed to have nondifferentiated classes. In 1975, schools, by legislation, became in principle comprehensive schools.

1. Goals of the Educational System

The goal of the Danish *Folkeskole* (elementary and lower-secondary school) is, in cooperation with parents, to offer pupils the opportunity to acquire knowledge, skills, working methods, and modes of expression that will contribute most effectively to the full development of the individual.

The pupil's desire to learn and ability to make evaluations and decisions shall be developed through experience and self-activation, and the school shall prepare the pupil for responsible participation in a democratic society. (Ministry of Education 1979)

2. General Structure and Size of the Education Effort

2.1 Formal Education

Education in Denmark is free. Education is compulsory for nine years, from 7–16 years of age. There is no obligation to receive this education at school, but very few use any alternative. About 90 percent of pupils go to the *Folkeskole*, and the rest go to private schools, supported by the state. The structure of the educational system is shown in Fig. 1.

Preschool education is voluntary. Some 40–45 percent of 3- to 6-year-olds go to kindergartens. About 94 percent of any year group attend an optional kindergarten class (for children aged 5–6 years).

For the first seven years, the *Folkeskole* is fully comprehensive. In grades 8 to 10 the school is comprehensive except in mathematics, English, German, and physics and chemistry. In these subjects, the pupils are differentiated into a basic course and an advanced course. However, the *Folkeskole* Act (1975) allows

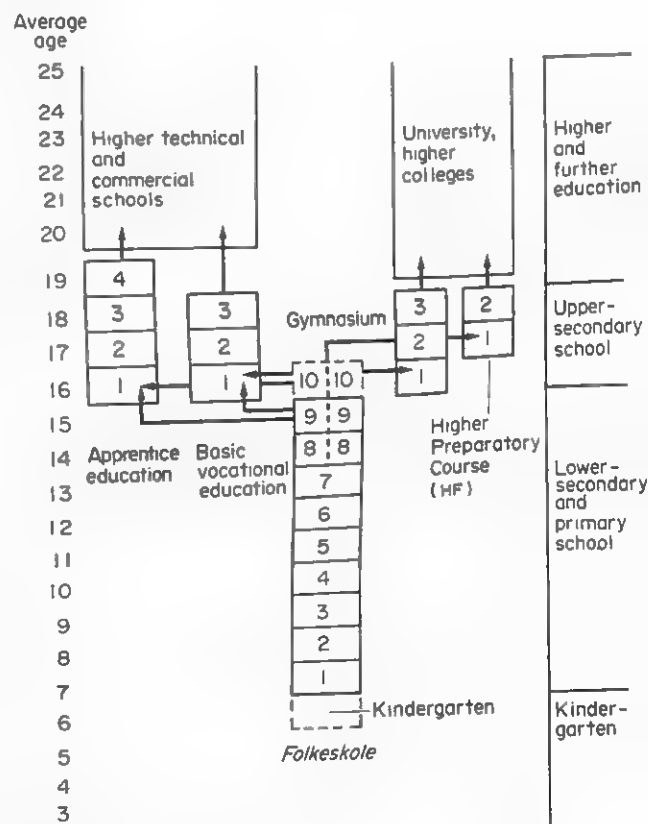
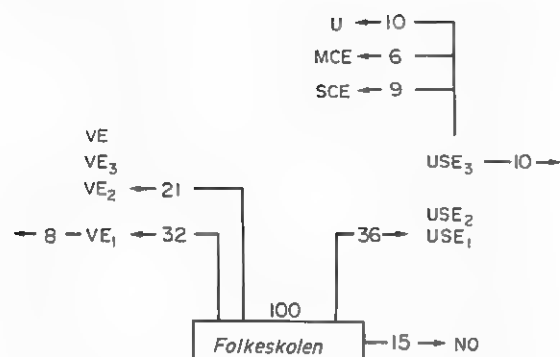


Figure 1
Structure of the educational system



MCE = medium-length college education
 NO = no further education
 SCE = shorter college education
 U = university, etc
 USE = upper-secondary education
 VE = vocational training/education

Figure 2

Flow of the 1981 year group through the educational system (%)^a

^a Source: Uddenelse og Kultur 1984 p. 8

freedom in this differentiation, and in 1983–84 about one-third of the pupils in grades 8 and 9 were not differentiated (Skov 1984 pp. 23–27). Grade 10 in the *Folkeskole* is optional.

After the *Folkeskole*, pupils enter further schooling or leave school. As shown in Fig. 2, in 1981, 32 percent entered vocational education, 36 percent entered a gymnasium or higher preparatory (HF) course, and 15 percent left school; 18 percent continued to various other types of vocational education.

The school-enrolment ratios in 1977 were 100 percent for basic education, 83 percent for the secondary level, and 32 percent for the tertiary level. There were almost no differences between the enrolment of males and females. In 1970, the enrolment at the tertiary level was, per 100,000 inhabitants, 1,542 students, and in 1977, 2,315 students.

Enrolment differs from one social group to another (Danmarks Statistik og Socialforskningsinstituttet 1984). Belonging to the highest of five social groups means a student has a high probability of entering higher education (Ørum and Hansen 1975 p. 32).

The increase in the number of pupils and teachers in primary and lower-secondary education from 1917 to 1977 can be seen in Fig. 3. In 1983, the total number of pupils enrolled in various levels of education was: preschool 59,217; primary and lower-secondary education 678,277; general upper-secondary education 80,723. In 1978 the number of pupils enrolled in vocational upper-secondary education was 109,507 and in further education 115,522. The overall percentage of female participation was 48. In 1983 the pupil-teacher ratio was very low—18.3.

The gymnasium is structured into two tracks with subdivisions (see Fig. 4). The number of students in the gymnasium was 65,679 in 1983. There are more females than males in the languages track. The higher preparatory course (HF) is very popular, and students here are much more equally distributed among social groups than in the gymnasia. In 1983, 13,136 pupils were enrolled in HF courses.

2.2 Nonformal Education

Youth and adult education is nonobligatory and is based on a long tradition of freedom to study, as expressed in the Leisuretime Education (Consolidation) Act 1975. The following different types of youth and adult-education programmes are of note:

- The municipal youth schools work in close cooperation with the *Folkeskole*, and approximately 60 percent of 14- to 18-year-olds take some subjects at a *Folkeskole* and some at a youth school.
- The 182 continuation schools are boarding schools for the same age groups. In 1983–84, they had an enrolment of just over 14,400 students.
- The 31 agricultural schools and 25 home economics schools are similar to the continuation schools but the students are slightly older.
- The about 100 folk high schools accept students from the age of 18. About 11,000 persons attend their long courses (5–8 months), and about 32,000 their short courses (1–3 weeks).
- Evening schools for adults are very common. They cover a wide range of subjects, depending on the interests of the students, who attend classes once or twice a week during the winter season (8 months).

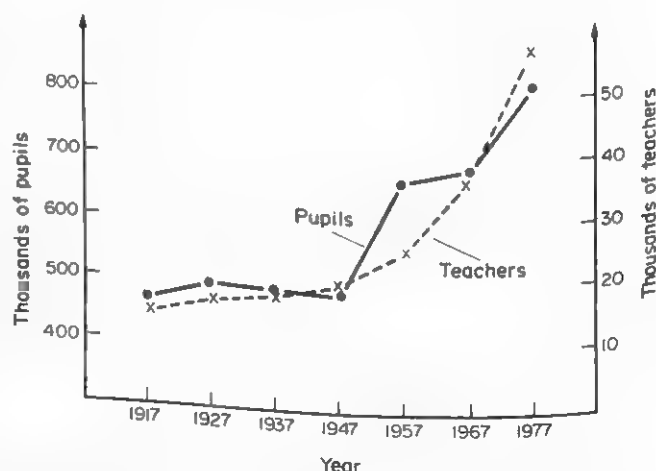


Figure 3

Numbers of pupils and teachers in primary and lower-secondary education 1917–1977^a

^a Source: Ministry of Education 1978 p. 66

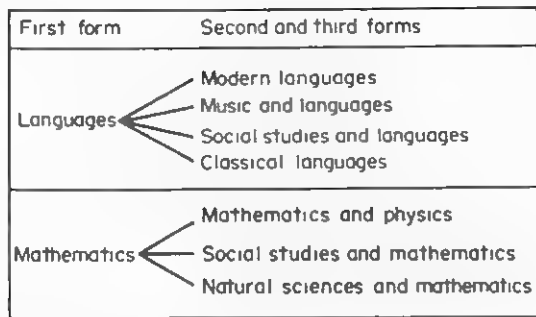


Figure 4
Structure of the gymnasium^a

^a Source: Ministry of Education 1979b p. 3

Two-thirds of adult-education courses are arranged by private promoters (mostly large educational organizations). The annual attendance is approximately 600,000.

3. Administrative Structure

Responsibility for the education sector rests with the state, the counties, the local authorities, and private institutions. Preschool education is administered by the Ministry of Social Welfare. Primary and lower-secondary schools are run by the local authorities. The majority of upper-secondary schools are run by the counties. The universities are mainly run by the state. All county, municipal, and private schools are subsidized by the state.

The Ministry of Education is organized as shown in Fig. 5. The ministry controls and directs the educational system by, among other things, allocating public funds, issuing regulations, issuing guidelines, and general supervision such as approving curricula.

The ministry thus has an over-arching role. But, as Denmark has a tradition of extensive local government, responsibility for the functioning of the educational system and its results lies with the local authorities. The school system is very decentralized.

At the municipal level, responsibility for primary and lower-secondary schools lies with the municipal council, its education committee, and the joint teachers' council. At the school level, it lies with the school board (whose members are parents), the teachers' council, the headmaster, and the pupils' council.

Within the framework of general regulations, a single school has the power to determine its own curriculum. Hence, for primary and lower-secondary schools, there is some variation in curricula and timetables.

In general upper-secondary education, the gymnasias and HF schools are under the responsibility of the county councils. At each school, there is a school council. The school timetable must be approved by the school council whose opinions must also be heard on the distribution of the school budget.

The two main types of vocational education are apprentice training and basic vocational education. Both come under the Ministry of Education. However, the technical and commercial schools, where vocational education takes place, are self-governing institutions administered by their own boards whose members are appointed by employers' and employees' organizations. The boards also decide the curriculum.

Further and higher education is provided at the universities and a number of specialist technical colleges (e.g., in engineering). They all come under the Ministry of Education. A few institutions, such as the Royal Academy of Fine Arts, come under the Ministry of Cultural Affairs and some come under the Ministry of the Interior. The 1970 Act (revised in 1976) on the administration of the universities states that the minister of education decrees the regulations for access to studies and study programmes. Each institution is administered by a rector together with a number of collegial boards and committees which include representatives of the teaching staff, students, and technical-administrative personnel.

4. Finance

The overall state and municipal budgets for the fiscal year 1982 amounted to 255,000 million Danish kroner. Of this, health services received 10 percent, social welfare 11 percent, and education and research 12 percent. The total expenditure on education and educational research in 1977 was 15 percent of the state budget and 7.4 percent of the gross national product.

The state allocates money for primary and lower-secondary education by giving each municipality a block grant according to its number of inhabitants. Upper-secondary education and further and higher education

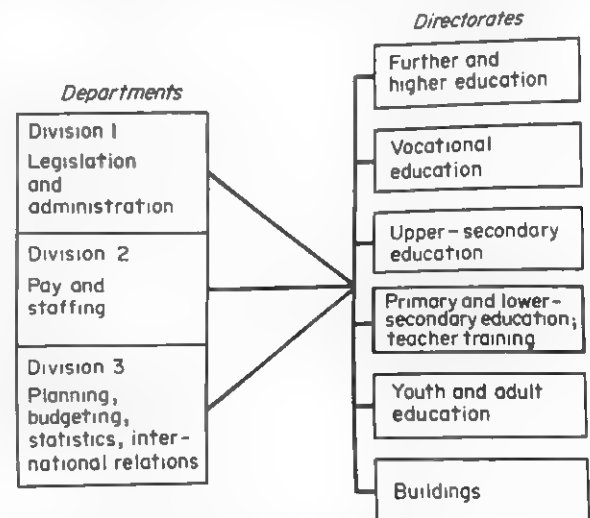


Figure 5
Organization of the Ministry of Education^a

^a Source: Ministry of Education 1980b p. 10

Table 1
Average per pupil/student expenditure by level 1977-78^a

Level	Danish kroner
Primary and lower-secondary school	10,000
Upper-secondary school	18,000
Basic vocational education	5,000-21,000
Apprentice training	3,000-8,000
Independent boarding schools	17,000
Universities:	
humanities	11,000
natural science	46,000
medicine	48,400
Engineering college	50,000

^a Source: Ministry of Education 1980b p. 77

are paid directly and almost fully by the state. The average per pupil/student costs per year are given in Table 1.

The state subsidizes all private schools irrespective of level from 51 to 78 percent of their total costs. The day nurseries and kindergartens are run by the local authorities or are private institutions; all are state subsidized. Youth schools, boarding schools, and folk high schools receive state grants covering up to 85 percent of their costs.

General adult education is financed partly by the state and partly by the local authorities. Adult education aiming at specific examinations or training is free and is paid jointly by the state and the local authorities.

Students in state-recognized courses of education and over 18 years of age may receive support from the state either as grants or as state-guaranteed loans. The grants are given according to the financial needs of applicants. Typical amounts for annual grants in 1981 ranged from 11,200 to 18,400 Danish kroner. State-guaranteed bank loans are given to all students wanting them, regardless of financial circumstances. The maximum loan is 16,700 kroner per year.

5. Teacher Training

There are 26 training colleges for preschool teachers. The training lasts three years. Students receive instruc-

tion in psychology, education, and social subjects and have 28 weeks of practical training. They must be 18 years of age, have completed 9 years of basic education, have passed the HF examination in Danish and one other subject, and have 2 years' vocational experience.

There are 31 colleges for training primary- and lower-secondary-school teachers. The training lasts from 3½ to 4 years. Students must have passed the upper-secondary-school leaving examination or its equivalent. The curriculum covers psychology, educational theory, social studies, teaching practice, Danish, arithmetic, religion, and optionally three creative/practical subjects. After training, the teachers are qualified to teach all classes from 1 to 10, and 61 percent of them in fact do this (Borg et al. 1981 p. 156). These teachers may receive further training at the Royal Danish School of Educational Studies, ranging from short courses to degree courses.

Upper-secondary-school teachers are normally university graduates who have completed a 6-month course in educational theory and practice. The state institute for the educational training of vocational teachers gives courses to permanent teachers at vocational schools. A course for technical-school teachers covers 400 lessons in educational theory and practice plus a practice-teaching period totalling 80 lessons. Corresponding figures for commercial-school teachers are 225 and 80.

University teachers and teachers at further and higher education institutions are graduates of these institutions. Emphasis is placed on their research qualifications.

Teachers in adult education have a diversified educational background. Most of them hold their position for a season or as overtime work.

The number of teachers at different educational levels is given in Table 2.

6. Curriculum

The government acts for each school type state the subjects to be taught in those schools. The Ministry of Education sets the objectives for the subjects as well as the number of weekly lessons and the length of the school year (200 days). But the local educational authorities and the individual schools decide how the aims

Table 2^a
Number of teachers at different levels 1977

Level	Full-time	Part-time	% Females
Preschool education	11,225	—	94
Primary and lower secondary	40,000	17,000	56
Upper secondary	4,300	1,400	51
Vocational training	3,700	2,700	—
Further education	7,000	8,000	41
Folk high schools, etc.	2,000	—	—
Leisure-time education	200	30,000	—

^a Source: Ministry of Education 1981c

are to be achieved. Teachers are free to choose whatever teaching method they consider best and each individual school determines its own specific curriculum within the framework of the overall objectives mentioned above.

Learning materials are written on a private basis, mostly by highly experienced teachers, and published on a commercial basis. There is no control of the scope and content of textbooks. Individualized teaching and group work are used to some extent, but the traditional lecture is still much used in spite of the very low class ratio in Danish schools.

7. Examinations

In primary education, there are no end-of-year examinations, and no marks are given for the first seven years of compulsory education. In grades 8 to 10, marks are given twice a year on a 10-point scale. There is a leaving examination at the end of grade 9 and an advanced leaving examination at the end of grade 10. They may be taken on a single-subject basis, and the pupils themselves decide if they will sit for an examination. There is no pass mark.

Under these circumstances, promotion is no problem. Very few will not be promoted. Instead there is an extensive system of remedial teaching, mostly within the class. In 1976 about 14 percent of the pupils in basic education received remedial education (Jansen et al. 1976 p. 158).

The same marking scale is used throughout the educational system. In the gymnasia, marks are given regularly and students must pass an examination in each subject to get a leaving certificate. At the HF schools, no marks are given except in the leaving examination for which there is a pass mark.

Examinations at universities and higher education institutions are much the same as in other countries.

8. Educational Research

The first research work in education was undertaken in the 1920s, when a committee on school psychological investigations was formed. The committee's work concerned basic education and was centred upon constructing and standardizing attainment tests in Danish and mathematics. During the 1930s and 1940s, when the education sector grew fast, the problems arising from this growth brought about an interest in research. In 1944, the study of educational psychology was introduced at Copenhagen University in order to train people for school psychological services and educational research work. In 1955, the Danish Institute for Educational Research was established and, at the same time, the first two professors of education were appointed. At the beginning of 1980, education could be studied at four of Denmark's five universities. Governmental, municipal, and private organizations have research sections conducting educational research.

In 1977, the Research Council for the Humanities published a report on ongoing educational research (Forskningssekretariatet 1977). Some 206 projects were classified. Most were empirical studies related to basic education. Some concerned universities. Very few were related to youth or adult education. The report's conclusion was that two education sectors are especially in need of research: youth education and that part of adult education which aims at giving both vocational and general education to those who have received relatively little education. This need for sector-aimed research work still exists, even if some research work on university studies and on youth education had been carried out.

Most educational research is carried out by the Danish Institute for Educational Research and the Royal Danish School of Educational Studies. Typically, the bulk of research projects is concerned with basic education. However, from the beginning of the 1970s, there has been a trend to carry out research on the 16- to 19-year age group, at upper-secondary schools and youth education. Most research has focused on the question of comprehensive schooling and nondifferentiation and has had an impact on education legislation. The Danish National Institute of Social Research has made significant contributions to this research.

9. Major Problems

The Central Council of Education published in 1978 a report on educational planning and policy in a social context at the end of the twentieth century. This report dealt with future society and its expectations of education. It emphasized that the Danish society of the future must be based largely on education, education being a principal factor in the development of a rapidly changing society.

The aims and intentions of an educational policy of the 1990s should therefore be to qualify and to socialize. A person should be qualified not only for working and economic life, but also for family life, community life, and leisure life. If such qualifications are to be reached, it will be necessary to break down the traditional framework of a subject-based curriculum and provide instead a large number of general qualifications. Socialization is also an aspect of teaching, often in a rather unconscious way. Education should therefore not be neutral but take into consideration the fact that the individual must learn to be critical while, at the same time, accepting common moral concepts and having an attitude of social solidarity. The report pointed to the necessity of making education relevant to both society's and individuals' needs.

Denmark is about to go into the postcomprehensive era. This implies that compulsory education will not be prolonged beyond nine years, that youth education will be more adapted to vocation, that some form of recurrent education will emerge, and that content will be based to a great extent upon the student's interests.

The problems of education were for many years connected with the educational structure. The future problem will be to overcome the barriers of tradition so that the content of education can parallel the development of society.

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Djibouti

C. M. Michel

The Republic of Djibouti in northeast Africa gained its independence in 1977, succeeding the former French territory of the Afars and the Issas. The nation is small, covering an area of 23,310 square kilometers (8,998 square miles) at the southern entrance to the Red Sea and bounded by the Gulf of Aden to the east, by Ethiopia to the north and west, and by Somalia to the south.

The population was estimated at 306,000 in 1982, with a high average annual growth rate of 4.1 percent (United States Central Intelligence Agency 1982 p. 57). It rose to 405,000 in 1984 (Europa 1986). The indigenous people are the Somali, mostly Issa, who make up the majority, and the Afar, of Ethiopian origin. In terms of religious affiliation, 94 percent of the populace are Moslem and 6 percent Christian. A small community of foreigners, mostly French or Arab, also reside in the country.

Djibouti is not well-favored in geographic resources.

It is a hot, arid land of desert and volcanic soil. French involvement in the region began in 1859, centering on the port of Djibouti, whose strategic position invests the country with its economic potential. The colony was called French Somaliland until 1967.

Since independence, the nation has not enjoyed political peace. Political competition between the two major ethnic groups has led to terrorism, cabinet crises, and changes of prime minister. Such disturbances have affected the educational system by periodically distracting educators from their efforts. In the early 1980s, political power was shared by a Somali president and an Afar prime minister.

The nation's economic system is generally weak, based chiefly on services and commercial activities centered on Djibouti's seaport, airport, the Djibouti-Addis Ababa railway, and a growing banking sector. Thus, the government has had to depend on financial aid from such sources as the World Bank and the Arab states.

Nearly all foodstuffs must be imported, as only 1 percent of the country's land is cultivated (Europa 1982 pp. 222–23).

1. Structure of the Educational System

Education in Djibouti has developed along the same lines as in other French dependencies—education by and for the *metropole*. Thus, in the limited number of schools maintained in the former colony, a goal of assimilating the indigenous peoples into French culture was pursued in disregard of their traditional culture. The lack of deep concern in the past for promoting education is reflected in the estimate that by the 1980s Djibouti's literacy rate was barely five percent (United States Central Intelligence Agency 1982 p. 57).

The first Western education in the area was offered by Roman Catholic missionaries, who, in 1884, opened embryonic schools in French Somaliland. Until the Second World War such mission schools, operating in parallel to the more popular Moslem Koranic schools, provided nearly all of the formal education in Djibouti. After the war, state schools forged rapidly ahead of the mission institutions in enrollment, so that by 1949 there were 463 pupils in state primary schools, 204 in mission schools, and 482 in Koranic schools (Thompson and Adloff 1968 pp. 147–48).

The objections of Moslem parents to sending their children to secular or mission schools were settled in 1964, when provision was made for Koranic instruction to be offered in such institutions but at different hours from the secular subjects. In this same year the first primary cycle of six years was extended to include courses leading to the higher elementary certificate (*brevet élémentaire*).

The 1960s and 1970s saw rapid growth in primary-school attendance. The enrollment of 2,364 in 1958 had risen 2.4 times to 5,698 by 1967 (Thompson and Adloff 1968 pp. 143–44). Enrollment over these years was growing at 500 to 600 pupils annually until, by 1973, the yearly increase exceeded 1,000 children. In 1974, the government added 206 new classes, 123 of them in the city of Djibouti, with the rest spread over the rural areas. By 1975 primary-school attendance reached 11,000 (70 percent public, 30 percent Roman Catholic) and by 1979–80 was 13,740 in around 50 schools (Tholomier 1981 p. 113, Europa 1982 p. 223). It reached 22,533 in 1984 (Europa 1986). An increasing willingness of parents to send girls to school was reflected in the tripling of female enrollment over the 1958–66 period.

The development of secondary education has been less spectacular (see Fig. 1). The first secondary school was instituted with the introduction of the *cours complémentaire* in 1949. Not until 1956 did this school become a lycée, a coeducational institution, which had a student body of 306 by 1963. By 1966, the school had 40 candidates prepared for the *baccalauréat* diploma (Thompson and Adloff 1968 p. 144). Secondary enrollment rose from 750 in 1970 to 1,400 in 1975. By 1980

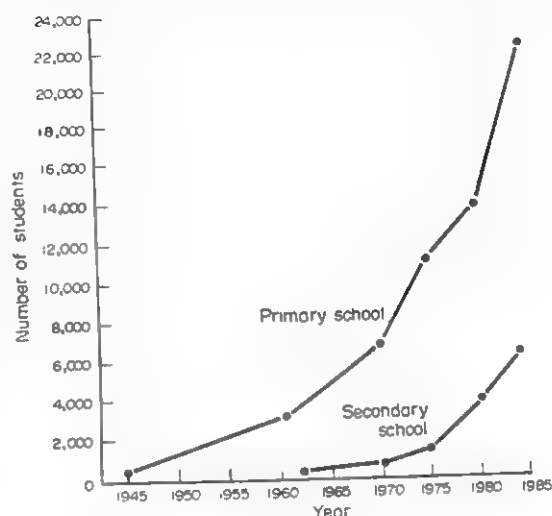


Figure 1
Primary- and secondary-school enrollments, 1945–85

the secondary system had grown to six *collèges d'enseignement secondaire* and two lycées enrolling 3,882 students (Europa 1982 p. 223). In 1983–84 enrollment was 6,333 (Europa 1986).

There is no higher education in Djibouti, and so students must travel abroad for further studies. Many Djiboutians are supported by grants to study in France. The lack of higher education opportunities in Djibouti has contributed to the nation's shortage of indigenous professional and technical personnel. For example, in 1973 there was only one native-born medical doctor in the country.

Vocational opportunities in the country have increased significantly since the 1950s. Roman Catholic nuns were the pioneers in vocational education when they opened the *École Menagère*, a home-economics school for girls, and in 1950 the government followed by starting a similar school. In 1954, a two-year program in navigation was launched, and in 1956 commercial classes were offered. By 1966 there were 166 students enrolled in the government's *Centre de Formation Professionnelle* for boys over 14 years of age to train as mechanics, stenographers, and accountants (Thompson and Adloff 1968 p. 145).

The *Collège d'Enseignement Technique*, paralleling the liberal-arts curriculum of the lycées of Djibouti, offers industrial and commercial courses. Enrollment grew from 236 in 1970 to 800 by 1975 (Tholomier 1981 p. 114). A vocational-training center for adults and youths, created in 1968, offers courses in masonry, hotel operations, and automobile and refrigerator repair.

2. Administration and Finance

While Djibouti remained a French dependency, all final educational decisions—the curricula, budget, personnel—were made in France. However, the highest local authority, the territory's minister of education, did hold

some power, such as that of appointing an educational advisory committee, consisting of parents, government officials, and teachers (Thompson and Adloff 1968 p. 148). Since independence, the Djiboutian government has assumed overall responsibility for education under a minister of national education, youth, and sports.

The French government in 1964 agreed to pay all costs for secondary education, thus allowing the Djibouti government to allocate all available local funds (about 18 percent of local revenues) to primary education.

After independence, in 1979, slightly over five percent of the Djiboutian gross national product was reserved for public expenditure on education (UNESCO 1981). Educational funding is highly centralized, with the city of Djibouti continuing to be favored in the award of financial support at the expense of the rest of the country.

3. Curricula, Examinations, and Certification

During colonial times, curricula in both state and mission schools derived from France. Learning materials were provided by the *metropole*, and the main subjects were the same as those taught in France, except for the addition in Djibouti of home economics and the Islamic religion. Today, efforts are made to adapt curricula, both academic and vocational, to the needs of the new nation.

The *certificat d'études primaires* is the diploma awarded after the completion of six years of primary schooling. The *baccalauréat* is given after the three-year upper cycle in the lycées; and upon successful performance in the state examination a candidate can qualify for university entrance. The *certificat d'aptitude professionnelle* is awarded to graduates of the *Collège d'Enseignement Technique*. These diplomas are not equivalent to those conferred in France, for Djiboutian students' performance is generally below French standards.

4. Supply of Personnel

Before 1967, the training of local teachers was minimal, since public funds were sufficient to import most teaching personnel from France. In 1967, the primary school teaching corps consisted of 100 trained *instituteurs* and 36 monitors and locally trained teachers. By 1980, the total primary corps had risen to 260 (Tholomier 1981 p.

114, Europa 1982 p. 223). In 1983-84 it was around 600 (Europa 1986).

The secondary level in 1967 had only 27 teachers, a number that rose to 57 in 1970, to 148 in 1975, and to 320 by 1980 (UNESCO 1981, Europa 1982 p. 223).

The significant increase in numbers of teachers began when the government started training teachers locally in 1970 and then opened the first normal school in the country in 1973. The earlier lack of such training facilities chiefly affected the upper-primary and secondary levels rather than the lower-primary grades (Tholomier 1981 p. 114).

5. Future Prospects

The structure of the educational system in Djibouti remains essentially the same as that of the French system, and it is expected that the French influence in education will remain strong for a long time to come. However, since independence, Djiboutians have gradually begun to liberate themselves culturally from the former *metropole* and to express their Arabism. The school system is becoming more productive than in the past, and efforts are being made to staff the schools locally so as to form stronger links with the local community. It seems clear that Djiboutian leaders consider an effective educational system a key element in their efforts to meet both the country's development needs and the aspirations of the people.

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Dominican Republic

J. M. Fernandez

The Dominican Republic is located on the eastern side of the island of Santo Domingo; in the west is the Republic of Haiti. It was formerly a Spanish colony and attained political independence in 1844. The island is in

the Caribbean Sea, with Cuba to the west and Puerto Rico to the east.

The country has an area of 48,442 square kilometers (18,703 square miles) and a population of approximately

5.2 million people, giving a density of 103 people per square kilometer. The number of residents in urban areas was evenly divided at the beginning of the 1980s. The Dominican Republic has a very young population, of which more than 83 per cent are under the age of 40 and about 75 percent are under 25.

The economy of the nation is basically a rural one, in which the output of agriculture and mining represents 23.6 percent of the gross national product. The traditional exports are sugar, tobacco, coffee, cocoa, gold, bauxite, and ferronickel. The main problem of the country is the lack of energy sources. Although some efforts have been made to develop new systems, there is still an almost total dependency on foreign oil for electricity and transportation. This, together with low prices for most local products, has helped to develop an increasing external debt and a negative balance of trade.

The economic differences between the population groups in the Dominican Republic are noticeable. The minority, in the higher strata (approximately 14 percent), receives 55 percent of total income while 29 percent of the population, at the bottom of the social pyramid, have only 6 percent of the total. The economy grew significantly during the 1960s and early 1970s, but not enough to be able to absorb the demand for jobs. The unemployment figures are already over 20 percent of the economically active population and they fail to reveal the extent of underemployment, which is considered to be a much more serious problem.

The Dominican Republic is a representative democracy with the traditional division of powers between the executive, legislature, and judiciary. The implemen-

tation of this political system shows all the limitations typical of a Third World country with a dependent economy and a history of dictatorships, which make political development slower and more painful.

In the 1976-86 national development plan, education is an important component of the drive toward better national conditions. Nevertheless, in spite of formal declarations, there has been a lack of coordination between the educational effort and socioeconomic requirements. Only in recent years has the government been able to link education to some of the specific regional development plans.

There are no great geographical obstacles impeding the education effort. Communications between the different regions are easy and there is a common language (Spanish). The two main problems are the scarcity of financial resources and the political struggles that have characterized the nation's history. The country has steadily increased its educational expenditures since 1968. Around 10 percent of the national budget is spent on education—a significant sum of money in the Dominican context but still insufficient to fulfill the growing demand. Public education is practically free at all levels and accounts for most of the system as a whole.

1. Structure of the Educational System and Enrollment

After the downfall of the dictator Rafael L. Trujillo in 1962 there was a new political openness and a desire for upward social mobility in all segments of society; in particular, the members of the middle sector wanted to improve their economic status. Since education was regarded as a prime factor of mobility, the demand for it increased greatly. From 1965 to 1975, primary school enrollment grew by 60.8 percent and secondary schools augmented their population by 219.6 percent (see Fig. 1). But the most astonishing process took place in higher education. In 1965, there were only two institutions, with a total enrollment of 6,963 students. Ten years later there were seven universities with 40,743 students. In 1982, there were at least 15 recognized universities with an approximate population of 100,000 students. Of the 15 universities established in 1982, the *Universidad Autonoma de Santo Domingo* is public, 5 are private with partial government support, and 9 are private without public funds. About 12 others are awaiting government approval. Since 1978 legislation has prevented other official recognitions.

All elementary and secondary schools, public and private, operate under the jurisdiction of the Ministry of Education (*Secretaria de Estado de Educación Bellas Artes y Cultos*). The state is required by law to give all citizens access to education up to sixth grade. However, by 1982 full attendance had not yet been achieved. Of the school-age population (ages 5-10), 10.8 percent attend private schools, 77.8 percent attend public schools, while 11.4 percent receive no schooling at all.

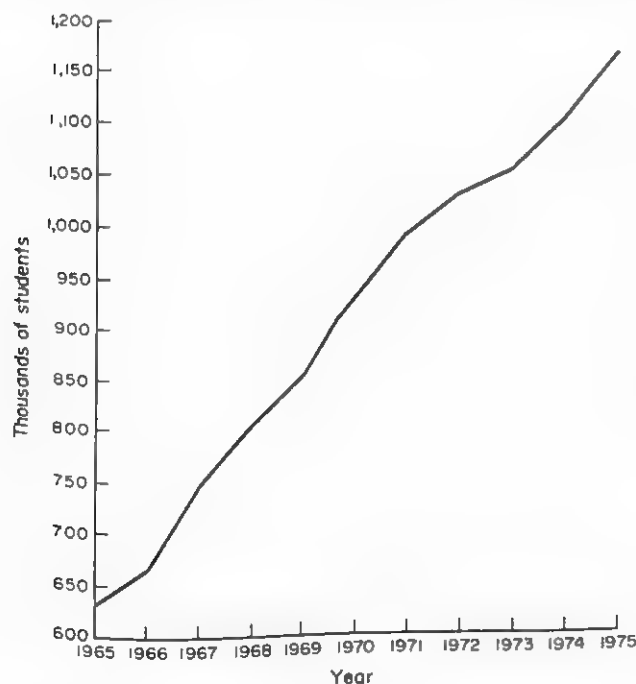


Figure 1
Educational growth 1965-75

Only around 22 percent finish this level in the public sector in the regular six years. The main problems are desertion, overage, and repetition.

Although education at other levels is not compulsory, there are major public efforts to provide services beyond the elementary-school level. The majority (90 percent) of those students who continue onto secondary-school level attend *liceos* (six-year secondary schools) obtaining *Bachillerato* certificates upon completion. Of the remaining 10 percent, 0.7 attend *escuelas normales* (teacher-training schools), and 9.3 percent polytechnics and vocational schools.

Higher education has its own laws and in practice all institutions are autonomous. There is no special supervisory or coordinating body at this level, and in 1978, a special commission was appointed by the president to study this situation and suggest possible solutions. The final report was delivered in January 1980 but no action has been taken on it.

Nursery education is largely an urban phenomenon. The majority of schools are private although the government is developing a new program to provide nursery education in the rural areas.

Although limited, there has been an increase in non-formal education in the Dominican Republic. It can be divided into two categories: programs directed at professionals and graduates of the universities and basic adult vocational programs. The former are mostly in the hands of the universities and private institutions and are mainly directed at keeping this population up to date with information and enhancing the possibility of their obtaining employment. The latter type of non-formal program is concerned primarily with elementary education for adults and the provision of vocational programs.

The role of the six-year primary school is to teach the basic skills of literacy and numeracy, basic knowledge of the social and physical world, and the patterns of behavior needed for a successful adaptation to the environment and to develop a clear consciousness of what it means to be a Dominican in the world today. There are two curricular plans used in the secondary schools. The first is traditional and is purely academic in orientation, designed to prepare students for university. The second is called the reform plan because it was introduced in 1970 as an ambitious scheme to change the curriculum of the secondary schools. It offers a variety of options to the students: academic, commercial, agricultural, industrial, and journalism studies and teacher education (for elementary-school teachers).

2. Curriculum Development

Curriculum development in the Dominican Republic is the responsibility of the Ministry of Education, which has a special unit for this purpose. Two major reforms have been started: the first, in 1970, for the secondary level was mentioned above; the other, at the elementary level, was introduced in 1977 and was not completed by

1982. Both reforms have experienced great difficulties in implementation. Lack of sufficient planning and the absence of the necessary support seem to have limited their scope and endangered their future development.

3. Administration

The educational system of the Dominican Republic is highly centralized, with very little participation at the local level. All decisions are made by central-government officials. The minister has regional representatives but their decision-making powers are very limited. A National Council of Education serves as an advisory body to the minister, but it meets very seldom and has been criticized for its lack of representativeness.

4. Promotion and Examination

Promotion is decided on the basis of teachers' evaluation of students' work. Usually, this consists of examinations given in the middle and end of the academic year. With the secondary-level reform, a new system of evaluation was introduced that aimed to use continuous assessment as the main basis for promotion. This has been very difficult to implement because of the lack of preparation of teachers.

5. Teacher Training

Elementary-school teachers are trained at the secondary level in six special institutions sponsored by the government. The universities are in charge of the preparation of secondary-school teachers. A unit in the Ministry of Education coordinates a variety of inservice programs to improve the quality of academic personnel. There have been some efforts to solve the problem of the shortage of qualified teachers and, though the results have been various, in general the number of certified teachers has increased. Nevertheless, because of the lack of financial resources and a not very well defined personnel policy, the problem still exists. In 1982, about 50 percent of teachers in the system did not have the required academic preparation.

6. Educational Research

Very little education research is carried out. Resources are limited, component researchers are few, and there is no tradition for such work. Most of what is done centers on an analysis of the performance of the educational system. Some studies involve an overall appreciation of the situation in the country (Fernandez 1980, SEEBAC 1979); others take a historical perspective (Nivar 1975); and one important set of studies was directed at examining how the education effort was serving the labor market (Schiefelbein 1976, Hernandez 1972). The bulk of research is undertaken by students in the universities and remains unpublished.

7. Major Problems

The Dominican Republic faces a great challenge in the development of its educational system in the next few years. Not only has the country to keep up with an increasing demand for educational services but it also has to confront the issue of quality. There has been much deterioration in the past few years (SEEBAC 1979). The efforts that need to be made could be summarized as follows:

- (a) The system must be reorganized. There is too much centralization and inefficiency in the administrative structure. Changes must be made to improve communication, gain more flexibility, allow for more local responsibility, and foster participation at all levels.
- (b) Curricula require reform. Clarification is needed so that the two unfinished reforms, especially that at secondary level, can be more effectively implemented. The curriculum unit should start to do what it was created to do in order to ensure curricula relevance through a continuous process of evaluation and development of new programs.
- (c) A great effort should be made to upgrade the training of both teachers and administrators. Ways of increasing their commitment and improving their performance should be sought. On the other hand, it is important to consider ways in which the social value given to this kind of work could be enhanced.
- (d) The country must revise its funding policies. Most of the education budget is spent on wages and operational expenditures. There is a very limited amount left for investment and expansion. This makes the system too dependent on outside help. The Dominican Republic must find a way to produce high-quality education within the limits of the nation's reduced financial resources. This is the only

way in which education can support the process of national development.

In higher education, the problems are basically the same as elsewhere in the system, with the additional difficulty of lack of central coordination and supervision. Each institution has complete autonomy whose legal framework is clearly insufficient (Fernandez 1979). Here the government faces a very delicate political problem. Nevertheless, something must be done if the tertiary level of education is to improve in the future.

To conclude, it must be emphasized that the problems of the Dominican Republic are not educational in nature but, rather, social and economic. The schools will not be effective unless they are part of an overall, more comprehensive, strategy of change for a more equitable society.

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Ecuador

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The Republic of Ecuador was founded in 1830, when the department of Southern Colombia separated from the Greater Colombia confederation, which also included Venezuela. Its name derives from its geographic location below the equator; this South American country borders on Colombia to the north and Peru to the south and east. The total land area is 272,258 square kilometers (105,120 square miles). The Galapagos Islands, one of Ecuador's 20 provinces, are located 1,200 kilometers off the northwest coast, in the Pacific Ocean. The country is crossed from north to south by the Andean ranges, which divide the con-

tinental territory into three regions: the coast, the highland or sierra, and the Amazon basin or oriental region.

The 1982 census put the population figure at 8,072,702: 3,944,172 located on the coast, 3,799,578 in the highland, 322,833 in the oriental region, and some 6,119 in the Galapagos Islands. Approximately 20 percent of the population is of white descent, 25 percent are Indians who live largely in the highland and the oriental region, 51 percent are *mestizo* groups of Spanish and Indian descent; blacks account for 4 percent. The population growth rate in 1982 was 2.6 percent.

Ecuador's history of human settlement goes back from AD 600 to 4,000 BC, to the establishment of the indigenous cultures of La Tolita, Chorrera, and Valdivia which achieved advanced levels of social and economic organization. During precolonial times, until the Spanish landings and conquests beginning in the mid-1520s, Ecuador became a part of the Inca empire or Tahuantinsuyo.

The social organization of the country has maintained an upper class made up of landowners and, more recently, financiers and industrialists. Middle-class growth became a phenomenon in the 1970s with an acceleration of social mobility brought about by the expansion and modernization of the economy. However, it is estimated that approximately 40 percent of the population is located outside the mainstream of economic activity, living at subsistence levels.

The economy experienced a very rapid rate of growth during the 1970s, when the country became a net oil exporter. As a result, the gross national product (GNP) in 1981 stood at US\$10.4 billion and per capita GNP was in the order of US\$1,200. The gross national product composition reflects the decline of agriculture. Whereas in the mid-1960s agricultural activities made up 28 percent of GNP, by 1980 they represented 17 percent. Industry's share has remained steady at around 16 percent since the early 1970s. Petroleum production represents close to 15 percent of GNP. In 1982-83, economic activity declined sharply as a result of the widespread foreign debt crisis which caused a major decline in the country's foreign exchange reserves. Economic performance was also affected as a result of widespread flooding during the onset of the rainy season.

Ecuador's political life has been characterized by the alternative exercise of power by civilians and the military. A total of 18 constitutions have been written, the last one having been approved by the Ecuadorean people in a plebiscite in 1978. Government is divided into executive, legislative, and judicial powers. The form of government is unitary and the country is divided for administrative purposes into provinces and cantons.

1. Structure of the Educational System

The educational system (see Fig. 1) is made up of a primary level of six year's duration (ages 6-11); a secondary level also of six years, divided into a three-year basic cycle (ages 12-14) and a three-year upper level (ages 15-17). Primary-school attendance is compulsory, while public instruction is free at all levels. School entrants must be at least 6 years old.

Institutional strengthening has been a priority concern. In 1974, a major process of ministerial reorganization was put into effect, promoting the centralization of educational planning, control, and evaluation and decentralization in the execution of plans and programs which became the responsibility of the provincial directorates of education.

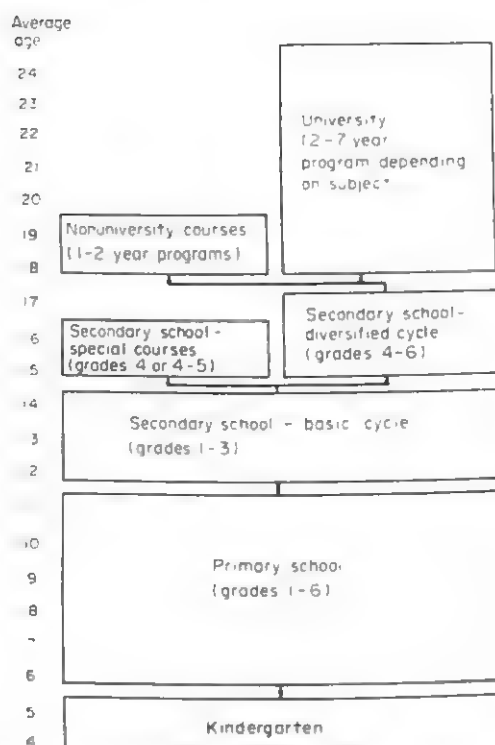


Figure 1
Structure of the educational system

In 1981, 20 percent of primary schools were located in the urban areas and 80 percent in the rural areas. About 49 percent of enrollment was in urban schools and 51 percent in rural schools. On average, 3.5 teachers work in each school. In urban schools, the number is 8.7, whereas in the smaller rural schools it is 2.3. Average enrollment is 155 per school, with 311 students enrolled in each urban school and 83 in rural schools. The national student/teacher ratio stands at 36:1.

Enrollment is not universal. According to the most recent data, 25 percent of the 6 to 12 age group is not enrolled in school: 40 percent of rural school-age children do not attend school, whereas in the urban areas the proportion is 10 percent. The dropout rate is 57 percent from grades 1-6, but the differential between urban and rural areas is highly significant: 33 percent in the urban schools and 75 percent in the rural schools.

In the three-year basic cycle the program of studies is an extension of the primary level, whereas in the diversified cycle a number of specialization possibilities are offered to students in the liberal arts or in technical areas such as agricultural sciences, accounting, and vocational skills. Students who complete the program are awarded a *bachillerato*.

In 1982 there were 1,341 secondary schools in the country. Of these 49 percent were located in the high-land area, 48 percent on the coast, and 4 percent in the oriental region. School enrollment stood at 535,445 in 1980. Of these 345,569 (64 percent) were in the basic cycle and 189,876 were in the diversified cycle; in this

cycle 68 percent were enrolled in the liberal arts programs and 32 percent in the vocational tracks.

Approximately 72 percent of students who finish the primary level go on to the basic cycle. Retention is highest between the basic and diversified cycle, being 93 percent and overall secondary-level retention is 45 percent. From grade 1 to graduation from secondary school the retention rate is 14 percent.

Higher education is financed largely by the central government through corresponding appropriations in the Ministry of Education. However, by law, universities are autonomous in their management and administration, and they are free to set up their own self-governing mechanisms. Coordination is the responsibility of the National Council for Higher Education which, however, has no administrative or control powers.

University entry requirements include a *bachillerato*. There are 12 state universities (six on the coast and six in the highland) and five private ones (two on the coast and three in the highland). Enrollment stands at 263,000. Of these, 44 percent attend the state universities of Quito and Guayaquil, 12 percent are enrolled in the polytechnic schools of the above-named cities, and 12 percent in private institutions. Figure 2 presents the enrollment trends from 1960 to 1981 for each level of education.

The number of teachers stands at 11,186, giving a student/teacher ratio of 19:1. In state schools, the ratio is 23, in private schools 14. However, these figures hide the fact that practically all teaching is done part-time, and due to the pyramidal structure of enrollment, which is heavily concentrated in the first two years, there is crowding in the most sought-after fields: teaching and business administration.

Adult education and literacy education are integrated into the national system of education and include three programs: primary with three cycles of nine months'

duration each, the middle level with basic and diversified cycles, each of three years' duration, and apprenticeship training which varies in accordance with the specialization.

There is a School of Higher Military Studies as well as other educational institutions in each of the branches of the armed services. These function apart from the rest of the educational system and have their own structure of supervision and control. Apprenticeship training is carried out by the Ecuadorean Apprenticeship Service (SECAP).

2. Finance

Education's share of the national budget has increased from 16 percent in 1963 to 21 percent in 1971 and to a constitutionally mandated 30 percent in 1984. As a proportion of GNP, education expenditures make up 6 percent. Education is financed largely with public funds. Investment outlays, mostly for construction, are channeled through the National Directorate of School Construction (DINACE). The allocation of public funds by level is 21 percent for higher education, 31.5 percent for the secondary level, and 39.2 percent for primary.

Approximately 90 percent of resources are used in current expenditure, largely for payment of teachers' salaries. School materials and transportation expenses are financed by the students, and schools often charge nominal fees. Private education constitutes an important component of the overall education effort, particularly in the coast region, where the public system is unable to meet the ever-increasing demand for schooling. Thus, private instruction is not solely a phenomenon of elitism and by and large private schools have second-rate facilities or teaching staffs.

It has been estimated that Ecuador's overall financial effort in education is about one and a half times that revealed by the allocations in the government budget. Educational expenditures have a slight regressive tendency in the middle to upper income range.

3. Teacher Training, Curriculum Development, and Certification Procedures

Primary-teacher training is carried out in the so-called higher normal schools, which are two-year post-secondary teacher-training programs. Secondary-level teachers are trained in the schools of education, where they go through a full-fledged university curriculum leading to the degree of *licenciado* and then Doctor of Education. There are no comparable programs for training university faculty since all training is professional with no academic specialization.

Although curricula for primary and secondary levels are unified, textbooks differ from place to place. Normally, textbooks are written by the most able and qualified teachers, but these are largely freelance efforts as there is no official sponsorship of textbook writing. Distribution of texts is carried out through local book-

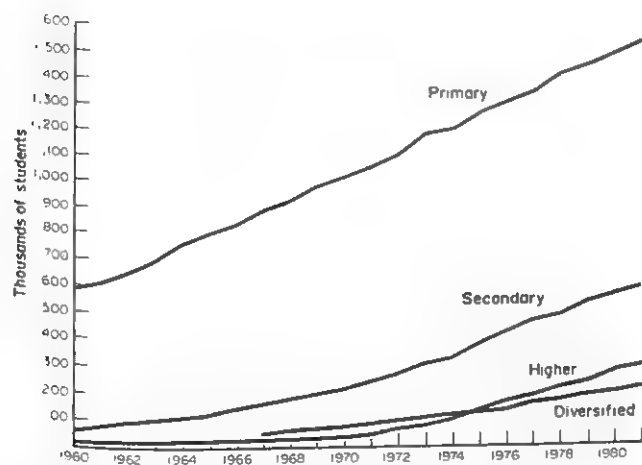


Figure 2
Primary, secondary, and higher enrollment trends, 1960-81

stores and through the system of bookstores of the Ministry of Education and the National Association of University Bookstores.

Program control is exercised through a network of supervisors in the Ministry of Education. Control is also maintained through the approval of the "questionnaires" for final examinations. No national achievement test is administered to students.

Ecuadorean education is bereft of an adequate base of support for the research and development of innovative teaching techniques. Teaching methods are traditional, with little interaction of teacher and students in the classroom. Dictation and memorization are preferred teaching techniques. Teaching aids such as audiovisual materials are scarce.

At the university level, the swelling of enrollment due to an open-door admissions policy has compounded the problems of organization and achievement of recognized academic standards in the institutions of higher education. Except for the polytechnic schools in Quito and Guayaquil which are making a serious effort in the quest for academic excellence, university instruction is weak in analysis and scientific inquiry and strong in memorization and political content.

Evaluation of student performance and promotion to the next higher grade is based on examination results. At the primary level, the rules for grading and promotion are not set on a uniform basis, but at the secondary level the final grade is based on the combined results of the final exam and the quarterly examinations. The same system, with variations, is adopted in higher education.

The system of examinations in Ecuador is judged by a number of local experts as a highly conventional and traditional structure for promotion. Emphasis is put on rote learning and memorization as measures of learning rather than on the acquisition of analytical skills. The evaluation procedures are therefore not integrated and do not reflect the overall learning capacity and individual formation of the student.

4. Educational Research

Most of the effort of educational research has been geared to the collection of primary information and statistics. In the 1970s, however, there was a significant surge in the number of qualitative and quantitative research studies undertaken by independent researchers, sometimes in association with the Ministry of Education, and usually sponsored by international organizations.

The following topics were the focus of educational research at the beginning of the 1980s: teacher training and upgrading; evaluation of the educational system; school-learning determinants; human-resources development for education; evaluation of the educational plan; sector analysis of education; and costs, financing, and efficiency of education. New areas of research include curriculum development, teaching methodology, teaching aids, biculturalism and education, and certain areas of educational psychology.

5. Major Problems

The main current and future problems of Ecuadorean education can be summarized as follows:

- (a) the maintenance of an adequate and improving educational effort with a population growing at the rate of 2.6 percent per annum;
- (b) the adoption and implementation of new guidelines to renovate the educational system and to make it forward looking;
- (c) the coordination and planning of higher education in accordance with the requirements for high-level human resources. Overcoming the current notion of university autonomy remains a major stumbling block;
- (d) the adoption and execution of a wide-ranging teacher-training scheme;
- (e) the upgrading and equipping of school facilities;
- (f) the improvement of rural education and its assimilation to a modernizing society.

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Egypt

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Egypt is situated in the northeastern corner of Africa. It is bordered on the west by Libya and in the south by

the Sudan, while the Mediterranean and the Red Seas form the frontiers to the north and the east. The Red

Sea and the Mediterranean are joined by the Suez Canal. Part of Egypt, the Sinai peninsula, is in Asia. Because Egypt is centrally located it is also a focal point in the worldwide network of water and air transport. This may be why, throughout its history, it has been a mediator in the spread of culture and civilization from one part of the world to another.

The total area of Egypt is 1,001,400 square kilometres, only one-thirtieth of which is inhabited and cultivated. Most of the population is concentrated in the strip of fertile land on both sides of the River Nile. The total population was 46.2 million in mid-1983, with a population growth rate of 2.4 percent annually. The population is expected to be 70 million around the year 2000. Research in Egypt has shown that the increase in women's education and employment is an effective factor in the control of population increase.

Family planning is now being attempted as part of the education policy. Migration is on the increase to adjacent oil-rich countries and within Egypt from rural to urban areas. The percentage distribution of rural and urban population was 81 and 19 percent respectively in 1907 and 56 and 44 percent in 1976. Greater Cairo and greater Alexandria together have one-quarter of the total population. All this is not without its adverse effect on the equitable distribution of education and other services.

Illiterates comprised 70.8 percent of all persons over 10 years of age in 1960, 56.3 percent in 1976, and 52.9 in 1982, the numbers of illiterate women being always 70 percent more than those of illiterate men. In spite of the marked improvement in percentages, the absolute number of illiterates is on the increase.

Due to the relative youth of the population and the rate of population increase, internal migration, and limited resources, the dependency burden is extremely high. There are 8 million children of preschool age and 9 million of compulsory school age (6-14). This is much more than the available resources can cope with and much more than the number of children actually enrolled.

Due to the high population density and the scarcity of space, people have to move outside the Nile valley to reclaim land for habitation, cultivation, and industry. This movement is planned and it is not without important educational implications.

Since 1950, Egypt has transformed its economic structure from a primarily agricultural economy to a more diversified structure with the industrial sector making an increasing contribution to the gross domestic product (GDP). Although agriculture suffered a decrease in its share of GDP from 34 percent in 1955-56 to 23 percent in 1976, production has increased at an average annual rate of approximately 3 percent, which is too small to cope with the increasing demand for food and other agricultural products. The cultivable land is so intensively utilized that the crop area is twice the cultivable area. Land reclamation is also encouraged and yet the demand for food is increasing at a rate above what

current efforts can cope with. From 1955 to 1975, the industrial sector increased its contribution to GDP from 20 percent to 30 percent, and the tertiary sector increased its share from 46 to 47 percent. The per capita income in 1980 was estimated at US\$580 (World Bank 1982).

The total number of employed persons was 10 million in 1977, over 12.5 million in 1980, and 14 million in 1982. The percentage distribution among the government, public, and private sectors was 19.10, 10.26, and 70.64 percent respectively. Government employment increased from 1965 to 1979 by 137 percent, while the population increased in the same period by 35 percent. Services other than education increased in the same period by not more than 40 percent. This over-employment and disguised employment may be partly due to the policy, adopted since 1961, whereby every university or intermediate graduate is guaranteed employment.

Employment in agriculture decreased from 58.4 percent in 1947 to 43.9 percent in 1976 and increased from 10.1 to 17.6 percent in industry and electricity and from 31.4 to 38.5 percent in services. An examination of the educational level of the labour force reveals that illiterates and semi-illiterates together formed 88 percent of the total in 1968 and 79 percent in 1977, indicating an obstacle against progress in a technological age. There is a shortage of ancillary staff (as compared with professional staff) which is detrimental to productivity. It is officially reported that unemployment is around 2.5 percent, and analysis has shown that unemployment is more prevalent among the educated than among the uneducated. Given the extent of migration and unemployment, it would appear that education is in need of reform to make it relevant to current needs.

In 1952, when the revolution overthrew the monarchy, Egypt was, by charter, declared a sovereign Arab state, a democratic republic, and an integral part of the Arab nation. Sovereignty belonged to the people. Islam was the religion of the state, and Arabic was its official language. The democratic ideal was pursued with a number of measures against feudalism, monopoly, and exploitation. According to the charter, education is compulsory for six years at the primary level, and this can be extended to higher levels. Education is free at any of the state institutions. The state supervises all educational activities and guarantees the independence of universities and research centres on condition that they direct their efforts to societal needs and to productivity. Abolition of illiteracy is a national duty, and religion is a basic subject in the curriculum. There are a number of other articles relating to freedom, human dignity, equality of opportunity, security, etc.

The Arab Republic of Egypt has a people's assembly consisting of 382 elected members of whom 10 are appointed by the president. Some 50 percent of the elected members are peasants and workers. Egypt also has a so-called consultative council and a body named

the "National Specialized Councils" whose function is to assist the president. The country is administratively divided into 26 governorates each headed by a governor appointed by the president. By law (43 of 1979), the governorates have important administrative functions in the fields of education, health, housing, agriculture, irrigation, transport, etc. The central Ministry of Education is responsible for policies and overall plans, and for following them up, while the governorates are responsible for their implementation and administration.

1. Goals of the Educational System

The president declared in 1974 that an overall revolution must take place in education, and must review the concept, structure, function, and management of education. The community must be literate and educated, benefit from progress in science and technology, and be more productive. Education should also be more flexible, more diversified, and more relevant to societal needs.

The Ministry of Education stated (1980) the main goals of education as follows:

- education is intended for the reinforcement of democracy and equality of opportunity and for the formation of democratic individuals;
- it is also intended for the country's overall development, that is, to create a functional relationship between education and work;
- it should also be directed towards strengthening the individual's sense of belonging towards the country

and to the reinforcement of the Arab cultural identity; and

- it should lead to further and lifelong learning through self-renewal and self-education.

These are general state objectives. Naturally, educational aims vary according to level of education, region, program, and the individual. Many Moslem villagers, for example, give as the main reason for wishing to become literate that they want to understand Islam better. Many parents send their children to school to help them avoid manual or physical labour in their future lives. With most people, education leads to a diploma, which brings a position with a regular income and security and ensures a respectable social status. However, this motive is losing weight because of the recent increase in the number of well-paid jobs in the private sector.

The different sex roles have also given rise to differences in educational objectives, but this gap is quickly disappearing. Finally, it should be mentioned that, in general, an academic emphasis of a verbal nature is gradually giving way to a more practical pattern of education.

2. Size and Structure of the Educational System

The formal school system, as it was established in 1957, is shown in Fig. 1. At the age of 6, the pupil joins a Ministry of Education primary school or an Al-Azhar primary school, the latter being under the auspices of the Ministry of Islamic Affairs and oriented towards the religion of Islam. Preprimary facilities are restricted and

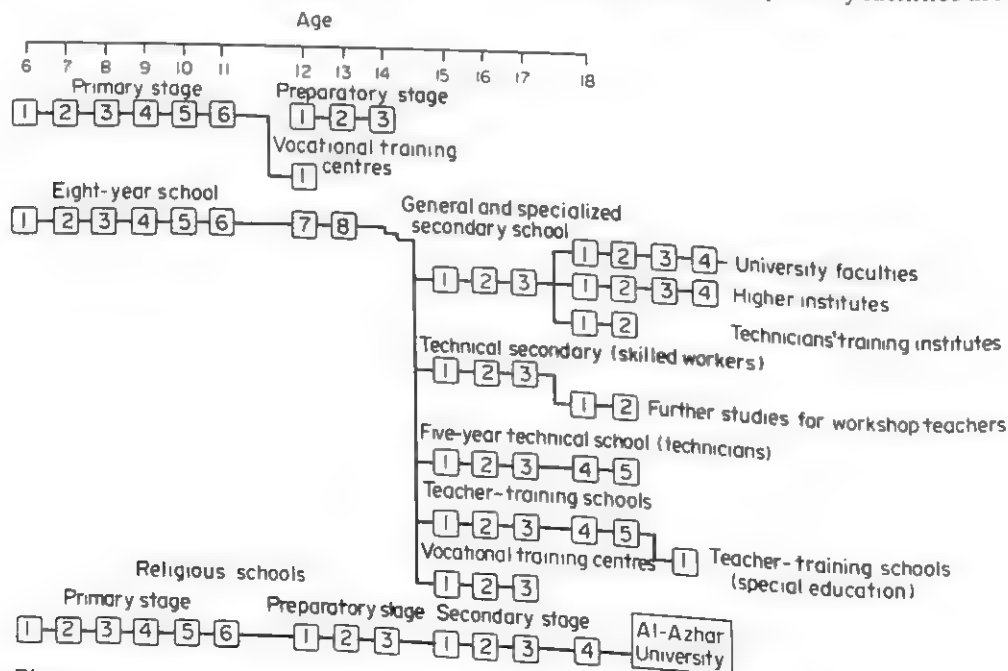


Figure 1
Structure of the educational system

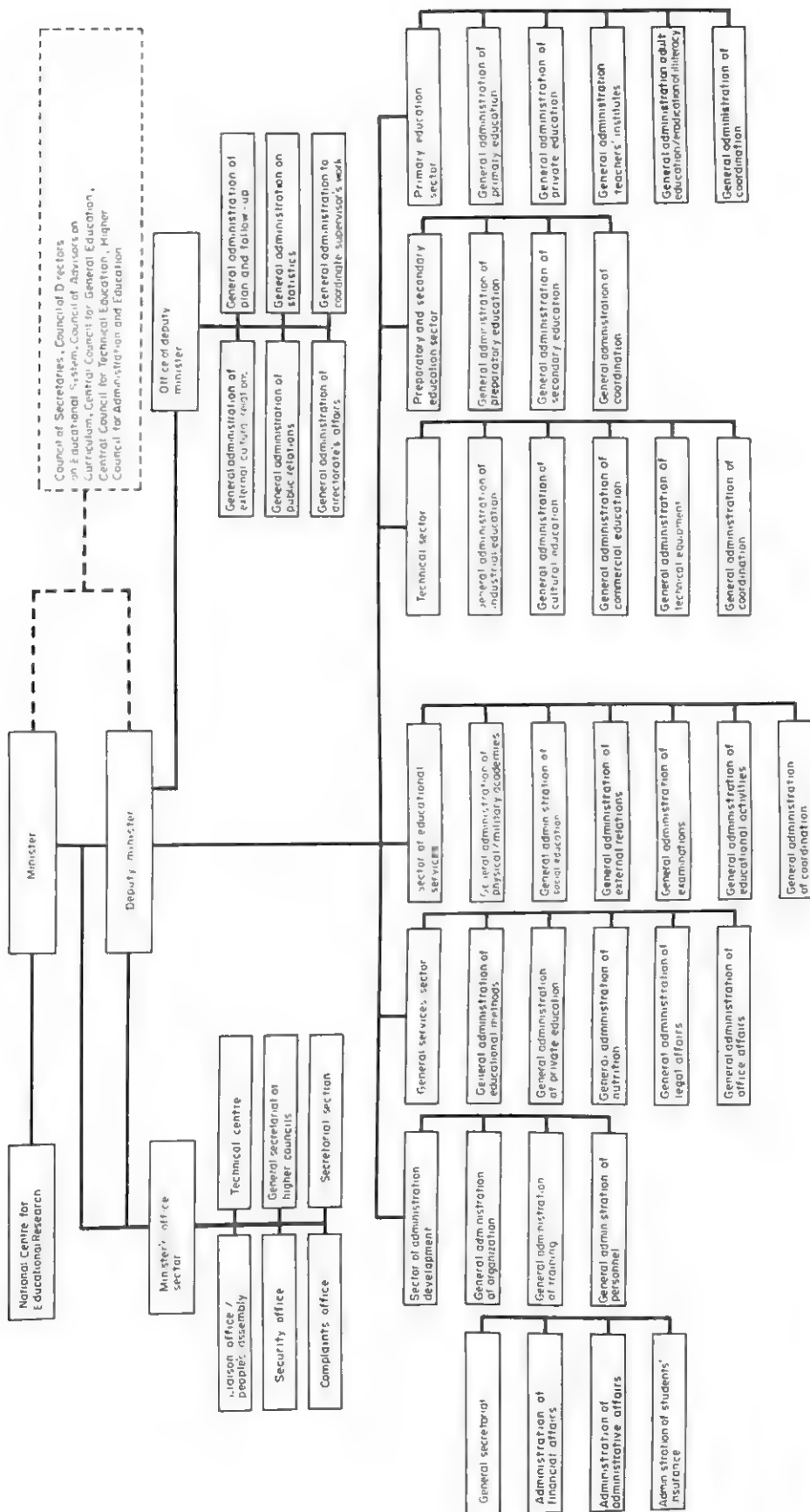


Figure 2
Organizational structure of the Ministry of Education (March 1979)

the prolific work going on at the colleges and at the national centre, educational research is also carried out by the National Centre for Social Research, by the Centre for Development of Science Teaching, and by a number of other organizations.

Several educational research studies are carried out in collaboration with the World Bank, UNESCO, UNICEF, and other United Nations organizations. Examples of these are "Repetition and dropouts", "Ill-effects of endemic diseases", "Influence of nutrition on achievement", and "The motivation to literacy among adult illiterates". Bilateral aid from a number of friendly countries also supports educational research.

The goals of educational research are to help planners and policy makers, school administrators, teachers, and the public to improve the quantitative as well as the qualitative development of education.

8. Major Problems

The most important educational task in Egypt is the qualitative and quantitative development of the basic compulsory school (age group 6-14) so as to create educated and productive citizens and to suppress the flow of illiterates into the adult community. The country's attempt at least to match the world's technological progress is at present jeopardized by the extent of illiteracy. This problem has many dimensions, including resources, buildings, aids for teachers, curriculum, etc. Related to this problem is the changing shape of the education pyramid—narrowing at the base and broadening at the top. The reconsideration of the education pyramid means taking demography, employment, culture, resources and other factors into account.

Education suffers from the fact that the teacher has become little more than a mere transmitter of information and the student a passive recipient of it. The student should be developed into a positive, resourceful, self-reliant personality capable of effective and creative thinking. The student at any level should be educated in such a way that he or she is capable of self-renewal and self-education.

The educational problems in Egypt, as in any country, are continuously on show and one main defect is the consequent attempt to handle them piecemeal, that is, dealing separately with examinations, teacher-pupil relationships, books, buildings, etc. Educational reform must be regarded as a system within a larger system and

with its own subsystems. What is lacking is a total approach with the immediate and long-range objectives and the individual and state objectives clearly thought out in advance.

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El Salvador

R. Ruiz-Esparza

El Salvador is the smallest of the Central American countries with a total area of 21,041 square kilometers (8,124 square miles). The country has three distinct geographic regions: a hot, narrow Pacific coastal belt,

a subtropical central region consisting of small valleys and plateaus, and a mountainous northern region. The hot coastal belt produces cotton and is characterized by a high concentration of landholdings. The central region

acts as a corridor that connects the areas of greatest settlement, including the San Salvador Metropolitan Area. Coffee is the dominant crop in this central region. The northern region is the least populated because the land is marginal and the terrain difficult.

Throughout most of the twentieth century, El Salvador has experienced rapid population growth. Between 1920 and 1978, the population more than quadrupled, increasing from 1.1 million to 4.4 million. In 1982, the population was estimated at almost 5 million. The rate of population growth steadily increased reaching a high of 3.4 percent in 1971, and then decreased to 3.1 percent in 1977. This decrease is the result of government efforts directed at reducing fertility through family-planning programs. Despite these efforts, however, the nation's population is expected to be at least 1.6 times its present size by the year 2000. With about 200 persons per square kilometer in 1979, the country already has a population density that ranks among the highest in the Americas. Thus, population growth is one of the country's fundamental long-term problems, one which will continue to contribute to social unrest, unemployment and underemployment, widespread urban and rural poverty, and the scarcity of basic social services.

The population has a homogenous composition and Spanish is the common language. With 60 percent of the population categorized as rural, the government has attempted to reinforce rural extension and training services to provide farmers and rural workers with modern production techniques. Efforts are also directed at strengthening industrial training at the skilled and semiskilled levels to meet the personnel demands of industry. Estimates placed annual personnel requirements through 1981 at about 76,000 workers, including 5,000 professionals and technicians, 14,000 office and sales workers, 18,000 agricultural workers, and 15,000 workers for the skilled and semiskilled ranks. The formal educational system is expected to provide professionals (21,100), office and sales personnel (8,700), and a relatively few industrial workers (2,400). Acute labor force shortages have been experienced among agricultural workers and skilled and semiskilled workers for industry.

Neither the formal nor the nonformal educational systems are capable of meeting these demands for new human resources. Nor is there sufficient capacity to provide needed training to upgrade the existing pool of workers. The government's response has been to place a high priority on the development of human resources through the educational system. However, despite a rapid expansion of educational services, about 40 percent of the total labor force and 56 percent of the rural work force are illiterate. The challenge to education is monumental.

Agriculture accounts for about half of all employment in El Salvador. The dominant export crops are coffee followed by cotton and sugarcane. Until recently, the pace of industrial development was among the most

active in Central America. This mostly involved small and medium-sized industries in such sectors as agro-industry, textiles, chemicals, construction, utilities, and transportation. Economic policies have been directed mainly toward import substitution and improvement of agricultural productivity, but economic growth has been slow as indicated by the 1.8 percent annual growth rate of gross domestic product (GDP) per capita between 1968 and 1978.

The agricultural sector is beset by complex problems stemming from the traditional concentration of land-ownership. The top 5 percent of landowners hold over two-thirds of the arable land, and about 80 percent of farmers hold less than two hectares. Governmental policies to deal with this situation are aimed at changing the structure of agricultural production in the medium term and diversifying the economy through industrial development in the long term. Land reform programs have been developed in recent years, but have not been fully implemented due to political opposition.

During this century, the political history of El Salvador has been marked by about five revolutions, which have interrupted the country's development as a democracy. In more recent years, the nation has experienced a period of political instability which started in 1979 and continues at the time of writing (1983). This period has been marked by civil strife, which periodically flares into civil war affecting all aspects of Salvadorean society. Educational development has been impeded as educational goals become secondary to higher economic priorities, and financial resources become increasingly scarce.

1. Goals of the Educational System

The foundation for the country's current educational goals was established in the First Education Development Plan (1968-72). That plan included the following goals: (a) to provide nine years of free basic education for every child and diversified programs for secondary students; (b) to strengthen the administration and supervision of education; (c) to provide free or low-cost learning materials and introduce educational television; (d) to reorganize teacher training; and (e) to improve educational opportunities for the rural population. The implementation of this plan met with limited success and the Second Education Development Plan (1973-77) sought mainly to continue the reform measures that the first plan had started.

The Third Education Plan (1978-82) had vestiges of the first plan, as it sought to: (a) further strengthen the system, giving particular attention to redressing inequities between urban and rural schooling; (b) expand postsecondary technical education; and (c) continue expanding nonformal education and training programs for out-of-school youths and adults. The political difficulties that have beset the country since 1979 have hindered the fulfillment of these goals.

are provided by the private sector or by the Ministry of Social Affairs. The total primary school enrolment (age group 6-11) was 1.5 million in 1951, with an enrolment ratio of 47 percent. In 1981-82, the total enrolment was 5 million with an enrolment ratio of 72 percent, while the grade 1 ratio was 85 percent. This is a rough indicator of a rather high wastage in primary school. The causes for such wastage, which arises from dropping out and repetition, can be found in conditions at school and in the socioeconomic conditions of the family.

Enrolment ratios in 1981-82 were 47.3 percent for the preparatory level (age group 12-14) and 44.5 percent for the secondary level (age group 15-17). Taking the age bracket 6-17, the enrolment ratio was about 58.5 percent. For the university level, it was 39,630 in 1951-52, 199,074 in 1971-72, and 580,000 in 1983-84 including Al-Azhar and the American University. According to official plans, enrolment in technical education should be more than in the academic stream. At present (1982), it is 56:44, while the target is 60:40.

Between 1956 and 1981, the percentage of females in total enrolment rose from 37 to 41 percent at the primary level, from 23 to 38 percent at the preparatory level, from 16 to 37 percent at the senior-secondary level, and from 14 to 33 percent at the university level.

The total student population reached 8.5 million in 1983-84, but the higher the level of education the higher the rate of increase, with the result that the education pyramid is narrower at the base and broader at the higher levels.

There are vast nonformal educational activities covered by various ministries, institutions, and organizations. A number of associations run schools for nurses and centres for training in various arts and crafts. The Ministry of Communications has post-office and telecommunication schools. Arab Contractors has a well-developed programme for training in architectural industries and many other practical areas. The Ministry of Health has schools for nurses, for those learning first-aid, and for x-ray and laboratory assistants. These are but a few examples of the many agencies training more than 250,000 persons in more than 100 vocations and professions. It is estimated, however, that much more provision is needed, and the present strategy is to have a nationwide machinery for cultural, vocational, and professional development through nonformal programmes.

3. Administration and Finance

Egypt's educational system is the responsibility of the Ministries of Education and of Higher Education. There is a state minister responsible for both ministries and for the Academy of Scientific Research. The central Ministry of Education is responsible for preuniversity education with regard to planning, policy formulation, quality control, coordination, and follow-up. The education offices in the governorates are responsible for all implementation. They chose the sites of the schools,

construct and equip the schools, and see that they are well-run. They encourage local contributions and citizen participation. In short, they are responsible for everything that guarantees the efficient operation of schools.

Figure 2 presents the organizational structure of the Ministry of Education. The minister meets at regular intervals with the council of undersecretaries and a number of other councils. He presides over the meetings of the Supreme Council of Universities which is responsible for planning and policy making. The organizational structure of the governorates is similar in principle to that of the central ministry, but it is rather smaller and simpler. The country is also divided into 140 separate education districts with a network of supervisors and administrators.

The Ministry of Islamic affairs looks after the educational policy and plans of the Al-Azhar University, colleges, and schools. Government expenditure on formal education in 1981 was 6 percent of the gross national product and 18.5 percent of total public expenditure. Salaries absorbed more than 80 percent, while current expenses and investment accounted for the remaining 20 percent. Investment in school buildings increased at the beginning of the 1980s from 7 to 13 percent. There are still not enough school buildings and, if demand is to be met, more than 3 billion Egyptian pounds must be spent on construction in the next 10 years, according to estimates. From 1964 to 1978, expenditure on pre-university education increased fourfold while expenditure on higher education increased more than fivefold. Higher education in 1970 used 20.4 percent of the country's total expenditure on education, and in 1978 it used 31.4 percent. Of the ministry's total budget, primary education received 44 percent. Some maintain that this should be appreciably increased.

Egypt receives aid from the World Bank, UNICEF, UNESCO, and friendly countries like the United States, the German Democratic Republic, the United Kingdom, and other Arab states. Although the aid received is substantial, there is a great deal yet to be done in education, particularly in the rationalization of management and of expenditure.

4. Personnel

The central Ministry of Education has somewhat fewer than 2,000 professional and ancillary officials. They are usually very carefully selected. The planners, for example, are usually university graduates with an additional year of training at the Cairo Institute of Planning. Preference is given usually to those who have demonstrated superior teaching skills. Suitable courses of training are given to those who will become inspectors, consultants, supervisors, technical assistants, senior masters, headmasters, directors, etc. Elaborate evaluation methods are used for allocation and promotion. Between officials in the ministry and those in the governorates there is a continuing exchange of

information through regular meetings and through other channels of communication.

The Ministry of Higher Education is much smaller than the Ministry of Education because most of its responsibilities are invested in the universities and in the Supreme Council of Universities.

The estimated total number of teachers (nearly 250,000) may be somewhat imprecise. The definition of a teacher in practice and as used for statistical purposes is not well-defined. If planning assumptions, school requirements, and the country's expectations are to be met, 13,000 new teachers are needed every year in order to reach a 95 percent enrolment ratio in grade 1 by 1990. This means an intake to teachers' institutes and colleges of 13,500 in the first year. The universities are at present establishing primary-education departments which will ultimately raise the level of the compulsory basic education of teachers.

There are severe shortages in teachers of Arabic language and Islamic religion—a strange phenomenon. There are also shortages of teachers of art, agriculture, music, home economics, and the various branches of technical education. This may be because in Egypt teaching seems to be one of the least attractive professions. The status of teachers in general and teachers of Arabic in particular needs to be seriously reconsidered.

5. Curriculum Development and Teaching Methodology

In Egypt, curriculum construction is the result of teamwork. Committees are formed which include consultants, supervisors, experts, professors of education, and experienced teachers. There is usually one committee for each subject or group of subjects. The chairpersons of the various committees are invited to meet so that decisions may be coordinated. When a curriculum has been produced by a committee, it is referred to the Supreme Council of Preuniversity Education which formally issues it for implementation. By law, curricula may sometimes be adjusted to local conditions or specific events.

The National Centre for Educational Research is responsible for collecting information about curricula, teaching materials, and implementation in the field. The results of such studies are channelled to the council of undersecretaries and if change is needed a committee is formed and charged with the task. There are various ways to ensure relevance and to help in the dissemination of new programmes. A large number of supervisors and consultants at all levels meet regularly with teachers for guidance and for collecting information. There are various training centres, experimental schools, and demonstration schools, all aiming at curriculum reform and the improvement of methods.

Once a curriculum outline is set, a small team similar to the ones described above is asked to write the text-

books. The curriculum text is not always identical to the curriculum implemented. The gap is due to a large number of factors such as classroom conditions, lack of aids and equipment, and teacher quality. Contrary to curriculum instructions, most teaching is verbally oriented.

In higher and university education, there is a great deal of freedom in curriculum construction and textbook usage. The progressively increasing class or course size, the scarcity of aids and resources, and other factors tend to lower the standards achieved by students. Dependence on one textbook and on the lecture method is prevalent.

It is charged that curricula in Egypt are geared more to subject matter than to the learner. The teacher's role can be characterized as that of a knowledge transmitter and the student's as that of a passive recipient. Also, relevance to the environment tends to be absent.

6. Examinations

The examination system in Egypt has a strong hold on the minds of pupils, parents, and education authorities. The reasons lie in the importance attached to the results. Promotion examinations are given at the end of grades 2, 4, and 6. The first public examination is held at the end of grade 9. The successful student obtains the Basic Education Certificate and can then proceed to further education. The aggregate score determines the type of school a student enters and is critical, for only the highest scoring students go to the preferred option of the academic-secondary school, leading to the university. Otherwise, students register in technical schools or in teacher-training institutes. A youngster's future is thus determined by the aggregate score in the Basic Education Certificate examination, which makes it exceedingly important and creates a high degree of competitiveness and anxiety throughout the country. Similarly, the secondary-school-leaving examination determines on the basis of the aggregate score which faculty and even which university the student can enrol in. Highly competitive examinations held at the end of the year are responsible for the trade in cram or crib books and for the demand for private coaching.

There have been attempts at reform, such as increasing the weight of the year's work in final assessments and using objective tests. The main solution would of course be to make examinations part of the process of effective learning.

7. Educational Research

Educational research began in Egypt with the establishment of the Institute for Teaching Education in 1929. It grew slowly but steadily until Ain Shams University incorporated the institute as one of its colleges in 1951. In 1955, a strong department of research was established in the ministry and was replaced in 1972 by the National Centre for Educational Research (NCER). Apart from

2. General Structure and Size of the Education Effort

Formal education consists of one year of preschool, nine years of basic education, three years of secondary education, and higher education with programs that extend from two to six years in universities and specialized postsecondary institutions.

Preschool serves children who are 5–6 years of age. This initial level is not yet well-developed, and only an estimated 10 percent of children in the eligible age group were covered in the period 1980–82, and of these most were urban children.

Basic education starts at age 7 and is organized in three cycles of three years each. The first two cycles (grades 1–6) are equivalent to primary education, while the third cycle (grades 7–9) is comparable to the lower-secondary level. A common curriculum is followed by the students at this level. In 1977, the total public and private school enrollment in basic education was 823,000, which represented 75 percent of the 7–15 age group. For the first and second cycles (grades 1–6), the enrollments were 690,000, representing 88 percent of the corresponding age group, while the enrollment for the third cycle was 133,000 or 42 percent of the age group for that level.

Enrollments in basic education are generally even between males and females through grade 4, but a slight imbalance develops by grade 6. In 1975, that imbalance favored the males (57 percent) against the females (43 percent). The imbalance in access and efficiency between urban and rural schools is more serious. In 1977, urban enrollment ratios for the 7–12 and 13–15 age groups were 115 percent (over age students included) and 94 percent respectively, compared with 70 and 8 percent in rural areas. The holding power of the first two cycles was poor with only 19 percent of those entering grade 1 in rural schools in 1977 completing the full six years, compared with 47 percent in urban schools. The reason for this is that, although 64 percent of the primary schools are in rural areas, only 30 percent of those schools offer schooling beyond grade 5.

Secondary education (grades 10–12) is diversified (comprehensive) and offers programs in the following areas: academic, business administration, home economics, industrial arts, agriculture, hotel industry and tourism, navigation and fishery industry, health services, and teacher training. The vast majority of these fourth-cycle schools are located in urban centers. In 1970, only 14 (2 percent) of the 863 secondary schools were in rural areas. This level of education had a total enrollment of 64,000 in 1977 and was more accessible to males (about 60 percent) than to females (about 40 percent); only 23 percent of the 16–18 age group were covered. The internal efficiency of the secondary level is weak. In a 1976 cohort study, only 34 percent reached grade 9 and 15 percent reached grade 12.

Higher education consists of two universities, one

Table 1

Total enrollments at all levels, including public and private schools, 1977–82 (in thousands)¹

Level	1977	1978	1979	1980	1981	1982
Preschool	59	66	74	74	45	50
Basic education (cycles 1–3)	823	858	901	834	710	749
Secondary (cycle 4)	64	72	78	73	64	53
Higher education	30	32	33	13	25	42
Nonformal	62	69	85	42	34	42
Total	1,038	1,097	1,171	1,036	878	936

a Source: Ministry of Education 1981–82 *Annual Report*. San Salvador

public and one private, and specialized postsecondary institutions, which mainly offer two-year programs. In 1977, higher education enrolled 30,000, representing 7 percent of the 19–24 age group, and of this total 92 percent were in university programs. It was estimated that the 1977 enrollment consisted of 70 percent males and 30 percent females. The efficiency of the universities is low, with dropout and repeater rates as high as 78 percent, while in the other postsecondary institutions the rates are about 30 percent. In 1975, the postsecondary institutions graduated a total of 383, while the universities produced less than 300 graduates. Enrollments at all levels between 1977 and 1982 are shown in Table 1.

As a result of the civil strife that has engulfed the country since 1979, the campus of the National University has been closed for an indefinite period. Some programs continue to operate off-campus and under private sponsorship, but the quality of university education has suffered a severe setback. This has placed a considerable strain on the private university (the Catholic University) and the other postsecondary institutions, whose facilities are incapable of absorbing the displaced students from the National University.

3. Administration and Finance

The Ministry of Education is responsible for all levels of education except the universities, which are individually autonomous. The Ministry's Office of Planning and Organization is responsible for planning, programming, budgeting, and coordinating all major activities, programs, and reforms. There are separate departments within the ministry that administer each of the educational levels; that is, basic education, the secondary level, the postsecondary level, and adult and continuing education. School supervision is organized through a network of zones with a number of supervisors assigned to each zone.

In 1977 educational expenditures amounted to ₡308 million (US \$1 = 2.5 colones), or 4.3 percent of GDP. Of this amount, ₡279 million, or 90 percent, was pro-

vided by the central government and the balance by the private sector. The government devoted 27 percent of budget revenues to education. Most of the resources for financing education are from domestic sources. In 1977, foreign assistance to education amounted to C\$4.2 million, or 10 percent of capital expenditures on education.

Basic education and higher education receive the greatest share of financial support for the sector. In 1977, 64 percent of public recurrent expenditures were directed to basic education and 27 percent to higher education, while only 9 percent went to preschool and secondary education. In 1976, the recurrent cost per student in the first two cycles of basic education was C\$134, in the third cycle C\$153, in secondary education C\$347, in postsecondary C\$2,822, and in the universities C\$1,394. The low efficiency of the universities has been due in part to the secure source of revenues. By law, 2.5 percent of the government's general revenues must be allocated to universities. To achieve equity, more resources should be allocated to basic and secondary education, and less to higher education.

4. Supply of Personnel

As a result of the 1967 reform, all teacher training for basic and secondary education was assigned to one institution called *Ciudad Normal*. This institution also provides upgrading courses for teachers of basic education, school directors, and supervisors. Training for the teachers of the first two cycles (grades 1-6) is offered under three programs: (a) three years for those who have completed nine years of basic education; (b) one year for those who have completed grade 11; and (c) a summer course and three years of supervised teaching in rural schools for those who have completed secondary education. Teachers for the third cycle (grades 7-9) are trained under two programs: (a) two years for graduate primary teachers with no teaching experience in the third cycle; and (b) four summer courses for graduate primary teachers teaching in the third cycle. Secondary teachers are selected from university graduates, graduates of *Ciudad Normal*, and upgraded primary teachers. Teachers for technical subjects are selected from graduates of secondary industrial schools. It is estimated that the system needs 700 new teachers annually, provided the proportion of teachers working two shifts increases to 54 percent in 1985 (from 19 percent in 1977).

5. Curriculum Development and Teaching Methodology

Curriculum development is centralized in the Ministry of Education, where the National Planning and Organization Office plays a key role. The process also involves the specialized departments of the ministry that are

responsible for each level of the schooling system. The curriculum is, therefore, uniform for the entire country, but adaptation to local educational conditions is encouraged. The supervisory system ensures compliance with national curricular guidelines. The most popular classroom teaching method is the teacher-expository method, but it is generally recognized that more student participation in the learning process is needed.

Textbooks have to be purchased by students on the commercial market. Because of this, most rural students do not have textbooks. In an effort to improve the textbooks situation, the ministry established a textbook division in 1975, which is working to develop a textbook-production system. Eventually, this system is expected to provide basic textbooks for all basic-education students at very low cost.

6. Major Problems

The following are the main tasks to be tackled in education in the 1980s and 1990s:

- (a) to improve educational opportunities for the rural population, thereby breaching the wide disparity in access and quality between urban centers and rural areas;
- (b) to arrive at an equitable distribution of financial resources, which in the early 1980s favored basic education and the university;
- (c) to improve internal efficiency at all levels but with an emphasis on the university level;
- (d) to improve technical education to meet personnel needs;
- (e) to improve the quality of the labor force by reducing illiteracy and raising the average level of education;
- (f) to reduce the rate of population growth.

Overshadowing all of these problems is the unstable political and economic situation in the country. As long as this situation continues, the problems will grow in magnitude and recovery will be more difficult.

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Ethiopia

T. G. Wagaw

The Ethiopian educational system may be studied in terms of five distinct historical periods, each characterized by unique sets of goals, problems, challenges, and achievements. The first is the period of religious education which began soon after the introduction of Christianity in the fourth century and was predominant for many centuries, though augmented by the Islamic and Falasha (Ethiopian Jewish) educational systems which usually served their own members. The second period began with the first decade of the twentieth century and introduced secular public education. It was followed by the third period beginning in 1936 under the Italian occupation, during which the preceding system was systematically destroyed. The fourth period (1941–73) saw efforts to revive and develop the nation's educational system by the restored government. The final period covers the time from the revolution of 1974 to the present. This article alludes only briefly to the earlier periods and focuses on the emergent, post-1974, era.

1. Background

The ancient east-central African nation of Ethiopia covers an area of 1,183,998 square kilometers (457,140 square miles). Although it is located between the equator and the Tropic of Cancer, the wide range of altitudes produces variations in climatic conditions which encourage agricultural and livestock developments. Some 85 to 90 percent of the people still live in rural communities, farming or raising cattle. The rugged terrain and deep valleys of the country have also contributed to the lack of effective communication among the inhabitants and has impeded the spread of social services.

There has never been a complete population census in Ethiopia. A 1981 estimate indicates a total population of 32 million people and a rate of increase of 2.5 percent per annum, which would double the population by the end of the century. An increasing percentage of the population will consist of children and young people as a result of the combined effect of rapid population growth and a relative decrease in child mortality. Current estimates indicate that the urban population is increasing by about 7 percent per annum; 5 percent of this growth is attributable to immigration of people from rural areas, indicating a rapid change in the rural-urban ratio of the population. The extension of education to all segments of society continues to be impeded by patterns of settlement of rural people, the absence of good transportation and communication systems, the political and administrative structure of government, and the different languages spoken by the various communities. Agropastoral activities are the main contributors to the gross domestic product. Agricultural

production includes such cash crops as cotton, coffee, sugar, fruits, vegetables, oilseeds, and pulses. Other crops (produced primarily for domestic consumption) include teff (a type of millet specific to Ethiopia), wheat, maize, sorghum, and millet. The livestock potential of Ethiopia is very promising and is expected to play an even more significant role in the future.

Most of the modern sector of the economy is now under state control and management, including textile mills, mining, food processing, and production of beverages, tobacco, sugar, and footwear. National development programs for the construction of rural roads, housing, forestry settlement, and hydroelectric schemes are expected to accelerate the growth of the modern economic sector.

Economic activities in Ethiopia have been greatly enhanced by the 1974–76 nationalization and redistribution of all rural lands among the formerly landless populace, the reformation of urban land tenure, the nationalization of large industries, banks, and insurance and the improvement of labor conditions.

Ethiopia has probably undergone more convulsive social and political dislocations than any other African nation in this century. Fascist Italy under Mussolini invaded the country in 1935, and among the consequences was the systematic and ruthless destruction of the secular public-education system. In its place, the Italians established a few primary schools with prescribed and strongly pro-Italian curricula. When the national government was restored in 1941, rehabilitation of the educational structure proved difficult. Former teachers were dead or scattered. The Second World War was being waged in Europe, and recruitment of foreign teachers proved extremely difficult. In spite of many obstacles, the infrastructure of the educational system—from preprimary to college levels—was built within a decade. In the 1960s, the view of education as personnel training and development was balanced by the belief in education as a social service which must be accessible to all citizens on an equitable basis. A number of national commissions, established to study the educational situation, recommended steps intended to rectify the distorted nature of the system's curricula and accessibility and the quality of its alumni. No effective measures, however, were taken to address the problems identified by these studies.

In 1971, another commission, the Education Sector Review (ESR), was formed to examine the whole gamut of the educational establishment. This group, comprising outstanding Ethiopian and international educators and operating with the cooperation and financial assistance of a number of international and bilateral organizations, presented its report and recommendations to the Ministry of Education and the emperor in 1972. The report pointed out that the Ethiopian

educational system was unacceptably narrow, elitist, expensive, inefficient, and discriminatory.

The report recommended that the whole system be restructured in such a way that, before the end of the twentieth century, 95 percent of all school children would complete basic education and then participate in some of the community practicums to be established in rural and urban centers under the auspices of the relevant government ministries. Provisions were also made for adults to participate in adult-literacy and basic-education programs. The commission urged that the government must also initiate economic and administrative reforms and must at the same time develop the people's confidence in these measures.

The ESR's findings were not made public by the government, and in any case its activities were overlooked during the ensuing period of civil unrest. A military mutiny in 1974 resulted in a fully fledged revolution which was followed by the abolition of the monarchy, suspension of the nation's constitution, and dissolution of parliament. A provisional military administrative council (PMAC) gradually assumed full control of the country.

The new socialist government decided to adopt much of the ESR study as policy. Thus, one might point out that an educational revolution was initiated before the national revolution swept the country.

The new government, adopting the ESR plan, gave it a new name and created the necessary conditions and institutions to make it possible to carry out the ideas originally suggested. A series of enabling legislation was proclaimed, of which the most important are the proclamations of December 14, 1975, which provide for the establishment of farmers' associations (*Yegeberoch Mahiber*) authorized to perform various civil functions. Significant among these is "the development and operation of schools, clinics, and social security for the old, sick, and disabled."

The associations' activities are coordinated by the appropriate government units at the subdistrict (*wereda*), district (*awraja*), provincial, and national levels. In the urban centers, urban-dwellers' associations (*Yekebele Mahiber*) were established with similar functions. There were several other enabling decrees.

The consequence of the emergence of these new institutions is the revolutionizing of the concept of education in the country to make it Ethiopian in its inspiration and in its relevance to the environment and requirements of the country.

2. Goals of the Educational System

The major goals of Ethiopian education have shifted from time to time depending on how needs were perceived by those in power. By the beginning of the 1970s, the emphasis and orientation had shifted from selective high-level personnel training to mass education, which meant that the goals of the earlier period were maintained while efforts were made to provide education for

the entire population—rural and urban. The 1971–72 ESR gave this aim further impetus.

The post-1974 government launched an imaginative and far-reaching program which calls for the rapid expansion of mass literacy and basic education so that the entire population will be better able to participate in the overall development of the country. It is intended that this be achieved through the rapid expansion of primary schools and the provision of polytechnical education for about nine million children from grades 1 to 8; through the development of parallel nonformal and continuing education for all citizens who are not engaged in full-time education; by strengthening the scientific and technical areas of the general polytechnic system of education and the establishment of new facilities for specific technical education and training; and by creating a new management and organizational structure for the administration of education which reflects the broad divisions of labor in general polytechnic education, mass education, technical education and training, and higher education and which permits an appropriate decentralization of responsibilities.

Primary and adult basic education are provided in a number of the major national languages of Ethiopia, thereby providing for the cultural and vocational relevancy of education to the people.

So far, attempts to translate these goals into functioning programs have enjoyed local, national, and international support.

3. General Structure and Size of the Educational Effort

The present educational system provides three years of preschool education (beginning at the age of 4), six years of primary education (grades 1–6, beginning at the age of 7), two years of junior-secondary school (grades 7–8), and four years of senior-secondary school (grades 9–12). In addition, specialized instruction is provided in technical/vocational schools, which recruit students from grade 8 for two to four years of training, and in primary-teacher training, which recruits from grade 12 for a one-year training period.

The number of school-age children and youths is estimated at 10 million. Enrollment ratios of the preschool group are negligible. Some 30 percent of the primary, 10 percent of the secondary, and 2 percent of higher education levels are involved. Figures 1 and 2 present the enrollments in primary and secondary schools from 1940 to 1980. Postsecondary enrollment figures are nonexistent for the 1974–77 period due to political turmoil or cessation of classroom activities to enable teachers and students to participate in development campaigns.

At the tertiary level are the Addis Ababa University system with several campuses in several centers, Asmara University, a number of junior colleges, and four colleges of the armed forces. Except for the latter group,

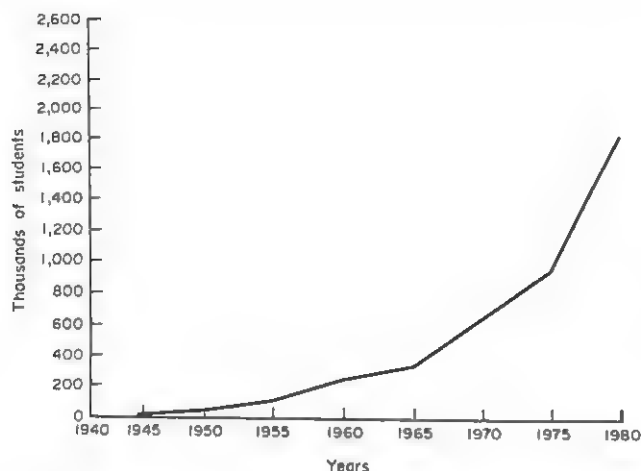


Figure 1
Primary-school enrollment 1940-80

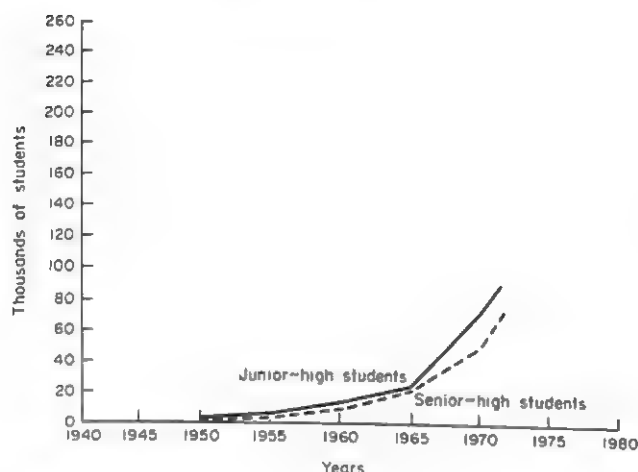


Figure 2
Secondary-school enrollment 1940-80

all postsecondary educational activities are coordinated by the new Higher Education Commission. These institutions award certificates, diplomas, first degrees, and recently graduate degrees.

University admission is highly competitive and is based on achieving high scores in the Ethiopian School Leaving Examinations; this tends to favor those who come from the urban-based (and hence better equipped) secondary schools which are concentrated in the major centers around the country.

Except in some instances, public education in Ethiopia has always been free for those fortunate enough to have access to it. Historically, the metropolitan centers of Addis Ababa and Asmara (together with their immediate environs) and, to a lesser extent, the Harar and Wollega regions have provided more educational opportunities than elsewhere in the country. Gross imbalances of access to education at all levels continued to adversely affect the majority of the rural people, as

well as females. This inequitable pattern persists, but measures are being taken to eliminate the discriminatory patterns of the past. The system of adult and nonformal education is extending opportunities for adult literacy, basic education, and skill training to citizens of postschool age.

Under the new government a national literacy campaign was initiated in 1979 and has produced impressive results. Through the combined efforts of the formal and nonformal institutions, Ethiopia expects to attain universal literacy within the 1980s.

Basic adult education programs have been initiated to provide Ethiopian adults with the fundamental information—attitudes, skills, and knowledge—required by all citizens who wish to participate fully in their society and which is consonant with the political views of that society. A multipurpose system of Community Skill Training Centers (CSTCs) is being established in each subdistrict to provide training in improved craftsmanship, healthy living, sanitation, nutrition, civic responsibilities, and similar skills to help people live better lives. These programs are locally controlled and administered with some technical and material assistance from the regional or national government. The results achieved so far inspire hope that they are the ideal response to the needs of a long-neglected rural majority.

4. Administrative and Supervisory Structure and Operation

The structure of administration and supervision of the Ethiopian school system is evolving. Until 1974, educational administration was highly centralized. Although Ministry of Education representatives served at various government levels throughout the country, most major policy decisions and directions were issued from the Ministry of Education's headquarters in Addis Ababa. A number of steps were taken after 1974 in an attempt to reverse this unhealthy concentration of power in the hands of remote and distant administrators.

The proclamation for administration and control of the schools by the people (No. 103, 1976) provides for local administration and control of schools. Members of local education and school committees are drawn from representatives of popular organizations; the latter also include a teacher representative, the principal of the particular school, and a student representative of at least 16 years of age.

These arrangements have some flaws, given the present educational level and lack of experience of many of the communities, but the intentions are noble and the goals worth striving for. In the long run, they strengthen pride in and responsibility for the institution.

By making mass participation possible in the educational system, the new organizational structure has removed many obstacles to development and has

directly linked popular organizations with general development programs.

5. Finance

In the post-1941 period, public education in Ethiopia was financed by taxes on rural land. Postprimary and urban-based primary schools were financed by the central treasury. Since rural per capita income was stagnant at this time (about US\$4 per annum), income from rural lands was limited. This retarded the development of education in rural areas. A new education tax on urban property and income was initiated in the early 1970s, but this did little to alleviate the needs and pressures in rural areas.

The combined effort from government and non-government sources amounted to about 20 percent of the nation's total annual expenditure. In terms of the gross domestic product (GDP), this represents approximately 2 percent per annum, which is very low in comparison to expenditures by other developing nations, or in terms of Ethiopia's real needs. The estimated total expenditure from all sources for the 1970-71 period was US\$70 million (Ethiopian Ministry of Education 1972 pp. iv-28).

Data for the 1970s indicate that the distribution of expenditures by all agencies among the different levels of education was: nonformal education 12 percent, primary 41 percent, secondary 23 percent, and tertiary 24 percent. Systematic educational finance data for the post-1974 period are nonexistent, but the trend seems to suggest that basic adult and primary education will receive a larger share of the education budget (without much increase in the total budgetary commitment), perhaps even at the expense of postprimary education.

In the current period, local popular organizations are providing means and materials for the establishment and operation of schools. There is as yet no well-established accounting system to indicate the magnitude of their impact. The religious organizations also continue to operate at reduced levels. The central government's education budget is further enhanced through the use of such unconventional means and sources as using secondary and college students as unsalaried teachers during the long vacations and obtaining similar service from military personnel and regular teachers who do not demand, or receive, additional pay.

A considerable amount of aid for postprimary and tertiary education has come from the World Bank, United Nations agencies, and developed countries in North America and Europe in the form of loans for specific projects, general grants, and scholarships for overseas training.

6. Supplying Personnel

A shortage of qualified teachers, always a problem in the Ethiopian educational system, continues to impede plans for expansion. In 1980, the Ministry of Education

reported (*Ethiopian Herald*, July 26) that there were 30,600 elementary, 4,640 junior-secondary, and 4,350 senior-secondary school teachers: a combined total of 39,590 teachers in grades 1 to 12. With the addition of some 600 college teachers, there is a grand total of 40,190. The statistics do not indicate whether teachers in nongovernment schools are included, but in any case their number is relatively small. About 5,000 new teachers graduate annually from the nation's teacher-training institutions. There are nine of these at present and more are being developed. The present teaching force is reaching some 30 percent of the school-age population; if the expected plan of achieving universal literacy within a decade is to be realized, at least 120,000 more teachers are needed over the plan period.

The usual requirement for prospective primary-school teachers seeking admission to training institutes is completion of grade 12; the actual training period lasts for one year. Secondary-school teachers are trained at the School of Pedagogical Science of Addis Ababa University and at the Agricultural College of Alemaya. Graduates from these two institutions receive a bachelor's degree and are assigned to senior-secondary schools. There are at least three other colleges that prepare teachers for junior secondary and technical schools.

In order to cut the timespan and improve the quality of teacher preparation, several unorthodox measures have recently been initiated. One of these involves establishing at least one pedagogical center in each of the 106 districts to serve as a focal point for the training of teachers using formal and informal means such as in-service programs, seminars, and workshops.

Problems, however, still remain. There are many schools that are operating on two- or three-shift systems, due primarily to lack of qualified teachers and classroom space. This shortens students' learning time, overworks school personnel, and reduces the efficiency of the learning process.

Further, though by 1974 some 75 percent of university teachers were highly qualified Ethiopians and some colleges were almost entirely staffed by Ethiopian faculties, after 1974, many of these leading administrators and faculty left the country and now hold positions all over the world. Consequently, when the nation's colleges resumed operation after the 1974-77 interruption that enabled students and staff to participate in development campaigns, the authorities of necessity resorted to employing as teachers foreign personnel, staff from the civil service, and college graduates with a first degree. As a result, the quality of instruction and scholarship declined. This issue can best be addressed by recreating an atmosphere that encourages (a) the normal functioning of university personnel and (b) an aggressive graduate-training program which attracts bright and motivated young people at both Ethiopian and foreign schools and provides them with inducements to seek teaching-research careers in their own country.

7. Curriculum Development and Teaching Methodology

Before 1974, the development and distribution of teaching-learning materials was performed by the Ministry of Education in Addis Ababa. After 1974, appraisal was made of the work, occupations, and hence of the educational needs of the Ethiopian people. As a consequence, efforts are being made to render education relevant to their needs through comprehensive changes in the curriculum, with the realization that for the vast majority of the people the main preoccupations are shortage of food due to lack of fertilizer, modern agricultural technology, or drought; shortage of timber for fuel; difficulty of access to safe and reliable water; lack of basic health services; absence of adequate communications; lack of proper housing and sanitation; and lack of suitable technology to increase productivity (UNDP and UNESCO 1980 p. 3). The curricula are being made to reflect these realities.

Temporary, transitional measures are being adopted while plans are implemented to decentralize curriculum development and administration policies. The department of curriculum and supervision of the Ministry of Education in Addis Ababa organizes panels of experts in each subject area; these specialists are required to research and develop textbooks, teachers' guides, workbooks, and related materials for all grades 1 to 12.

These materials are sent to representative schools in different parts of the country for examination, evaluation, and comment by teachers and school administrators. Revisions are made in the light of these reactions from the field, and the materials are produced as standard texts. The trend, however, is towards the localization of curriculum-development responsibilities.

By means of such a decentralized approach it is intended that the educational activities of the respective communities respond to the immediate needs of each community without neglecting the need for educational modernization. The key elements are relating education to productive work, doing while learning, and self-sufficiency through the teaching of science and technology. The core curricula, consisting of science, mathematics, productive technology, agriculture, and the social sciences, are provided within the school proper and at work places so that there are continued linkages and interactions between the worlds of work and learning.

Educational materials are being prepared in at least four minority languages in addition to Amharic, Ethiopia's national language. There are plans to use additional minority languages in basic adult education. Directly or indirectly the national radio system also broadcasts education-related programs in some of the local languages.

Lectures constitute the predominant pedagogical method in the Ethiopian school system. This method,

a carry-over from ancient methods practiced by religious institutions, encourages learning by rote without the student necessarily understanding the material covered. Attempts are now being made to alter this approach by requiring learners to relate the information they acquired to the daily resolution of immediate problems of working and making a living.

There are numerous problems awaiting solutions in the areas of curricula and teaching methods, both in the grade school and postsecondary educational systems. Perhaps the major one is a lack of resources: of trained personnel and supporting equipment and of facilities and funds to constantly research, test, evaluate, and adapt new and improved teaching methods and instructional materials.

Higher education is a very expensive undertaking for a poor country like Ethiopia, but it is extremely doubtful whether such a poor country can do without the trained human resources that the colleges produce. Attempts to do justice to the traditionally neglected majority of the people could all too easily result in neglecting or starving the teaching and research activities of the university system. If this should happen, not only will the university suffer lasting damage but the lower grades of the public schools, whose faculty and staff are trained in the universities, will suffer as well.

8. Systems of Examination, Promotion, and Certification

As a rule, promotion from one grade to the next is decided on the basis of school or classroom tests which are usually administered twice a year but sometimes more often. At the completion of grades 6 and 8, all students take centrally developed and administered nationwide examinations involving the core courses that have been covered so far. On the basis of this, some students are promoted to the next grade and some are allowed to repeat if space is available.

All students who wish may take the Ethiopian School Leaving Certificate Examination (ESLCE) at the completion of grade 12. The examinations are administered nationwide on the same days and are centrally developed and evaluated by the Ministry of Education. During the first two decades of the postwar era, successful matriculants were automatically accepted by colleges. This is not possible any longer. Due to shortage of places only about 20 percent are admitted to the colleges.

Many educators and students believe that the certification functions of the examination should be separate from the university-admission function, since nonadmission to college marks the majority of students as "failures," thus prejudicing their chances of employment or further education through other channels in other localities, including study abroad.

9. Educational Research

Educational research conducted during the first two decades after the restoration of the national government in 1941 was largely related to the production of teaching materials and educational policy and administration. A modest amount of research was carried out regarding Ethiopian history, ethnography, and culture after the regional colleges and the state university were established. Since 1970, the Ministry of Education has been carrying out some policy- and curricula-oriented research, but not enough to meet needs. The Ministry of Education carries out some research and the national university has performed some quality research and publication work through the Research Center of the School of Pedagogical Science. There are also regularly published journals and periodicals.

10. Major Problems

In the 1980s and 1990s, it is likely that postsecondary education and particularly university education will suffer due to increased attention paid to basic and primary education. The university will suffer from both inadequate resources and from lack of the freedom necessary for faculty and students to conduct research and disseminate the results.

In summary, Ethiopian education may be adversely affected by a scarcity of money and of trained, experienced, and professional faculty and staff and by a fragile political system and untested political institutions.

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Fiji

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Fiji is a south-central Pacific archipelago comprising 300 islands, 100 of which are inhabited. The total land area of 18,272 square kilometers (7,055 square miles) spreads across an ocean area 1,127 kilometers from north to south and 789 kilometers from east to west, with 87 percent of the land on two large islands—Viti Levu and Vanua Levu.

The first European to sight and chart the islands in 1643 was the Dutch navigator, Abel Tasman, who found the region inhabited by people of Melanesian stock. The first European settlers to arrive at the beginning of the 1800s have been described as "deserters, marooned sailors, derelict scourgings of the ports of the Old World, among them some of the worst and lowest of their kind" (Derrick 1946). They brought with them diseases which were to take a heavy toll of the Fijian population.

Methodists were the first missionaries to arrive in 1835. They taught the alphabet and reading, thus introducing the literacy movement which, over a span of 150 years, enabled almost 80 percent of the population to read and write. The Methodists were followed by

Catholics and other Christian denominations who provided the bulk of the population with education for about 80 years.

In 1874, Fiji was ceded to the United Kingdom, and five years later the British imported the first indentured laborers from India to work on the sugar plantations. By 1920, at the close of the indenture system, some 60,000 Indians had arrived in Fiji. By 1976, when the population of the islands was 588,000, Indians accounted for 49.8 percent of the total, Fijians 44.2 percent, and other (Chinese, Europeans, Rotumans, and other Pacific islanders) from 0.2 to 1.8 percent each.

In addition to ethnic diversity, the inhabitants are varied in religious affiliation (mainly Christians, Moslems, and Hindus) and in language (mainly Fijian, English, and Hindi, but with some speakers of Urdu, Tamil, Telegu, Gurmuki, Gujarati, and Chinese). Thus, there are pressures on the educational system to accommodate religious and language differences.

After being governed as a colony of the United Kingdom for nearly a century, Fiji was accorded political independence in 1970.

Vocational course centers are the main providers of adult education with explicit vocational aims. These centers are a joint venture of education and labor authorities. The duration of training varies from 3 to 18 months and is supported by free room and board and a training allowance. There are 43 vocational course centers, providing training for about 30,000 persons annually. In addition, separate courses are arranged by vocational institutions proper, as well as by universities. An extensive network of short (up to 10 days) inservice and complementary courses exists for those employed by either state or private enterprises.

3. Administration and Finance

Decisions on the principles of educational policy and programs are made by parliament. Educational and cultural affairs are the responsibility of the Ministry of Education, which is usually represented in government by two ministers. Some educational functions fall under the Ministry of Social Affairs and Health and the Ministry of Labor. Primary, secondary, and adult education are further administered by two central offices: the National Board of General Education and the National Board of Vocational Education, dealing with matters of a more practical kind (including supervision). Each of the 12 provincial governments have their specialist departments, for example, a school department for the provincial inspectorate and advisory services as well as other educational/cultural matters. Local administration is the responsibility of the 461 municipalities, which are self-governing, with a municipal council elected by popular vote. Several special boards function under the executive municipal board, one of these being for school affairs. Finally, each school has a board of directors for immediate supervisory and advisory purposes. Universities are directly under the Ministry of Education, which coordinates both quantitative and qualitative planning. In their internal affairs, universities are self-governing; the model of university administration is still under experimentation and development.

Whereas municipalities have the key role in organizing basic, general-secondary, and much vocational and adult education, state involvement in planning and in financing both operational and capital costs is decisive. The average state share in operational costs varies according to sector and to the "economic carrying capacity" of the municipality. It is estimated at between 70 and 80 percent, on average, extremes being about 50 and 90 percent. The percentage of the state budget allocated to education, science, and culture was 5 in 1920, 11 in 1930, 7 in 1950, 15 in 1960, and 18 at the beginning of the 1980s. Within the education sector, the distribution is as follows: general education (comprehensive schools and upper-secondary schools) 42 percent, vocational education 20 percent, higher education 15 percent, adult education 10 percent, art, culture, and free-time activities (including sports) 8

percent, and study allowances 5 percent. The share of educational costs in the municipal budgets has likewise averaged 18 percent. The trend of education expenditure as a percentage of GNP was 3.9 in 1930, 2.5 in 1940, 2.7 in 1950, 3.8 in 1960, 6.4 in 1970, 6.8 in 1975, and 5.7 in 1979.

In 1980, the per pupil cost was about US\$1,395 in comprehensive schools, US\$1,170 in upper-secondary schools, US\$2,110–2,790 in vocational education, and US\$2,925 in higher education (conversion rate: US\$1 = 5.7 Finnish markkas). As all formal education is free of charge for students, or involves a nominal tuition fee, study expenses beyond basic education consist mainly of living expenses and learning-material acquisitions. Direct support measures to students are the "study grant" and the "study loan." The former does not need to be paid back, the latter is a normal bank loan guaranteed by the state. Indirect measures to reduce study expenses take the form of various subsidized services. The condition for continued aid is progress in studies according to a normally accepted timetable. Table 2 presents information on study grants and study loans in 1980–81. The total sums assigned were US\$63 million as grants and US\$148 million as loans.

4. Supply of Personnel

Table 3 presents the numbers of teachers and students by type of institution. The present cadre of teachers represents a variety of training backgrounds. Class teachers (grades 1–6) may have a primary-school, junior-secondary school (now obsolete), or matriculation educational background, plus between one and five years of teacher training. The actual combinations are diverse and complex. Subject teachers (of grades 7–9) usually have a matriculation background, with a university or equivalent specialist training. In the upper-secondary grades (10 to 12), M.A. or equivalent certification is required. Subject teachers have undergone a separate one-year pedagogical coaching period at approved training schools. Appropriate certification is possessed by 91.4 percent of teachers in the comprehensive schools and 92.2 percent of teachers in the upper-secondary schools.

From 1979 onwards, a new system of teacher education became effective as part of a general university-profession now is through the universities, where all teacher training (for general education) is organized under the aegis of faculties of education, of which there are seven. As a consequence, primary- and secondary-stage teacher education is now equal in duration (160–180 study weeks), irrespective of a teacher's future level of operation within the system. This is fundamental. The reform is extending the duration of class-teacher training and making it more scientific; in subject-teacher education, increased attention is given to the professional aspects of teaching, with the provision of a

Table 2
Student aid, 1980-81

Level	Study grants			Study loans		
	Number of grants	% of all students	Average sum per student (US\$)	Number of loans	% of all students	Average sum per student (US\$)
Upper-secondary	32,000	31	116	2,700	3	605
Vocational	104,800	86	363	61,300	50	1,116
Higher	39,000	54	460	39,800	55	1,744
Folk high schools	5,000	83	370	3,800	63	976
Overseas studies	2,200	—	530	2,400	—	1,930
Totals (averages)	183,000	(60)	(350)	110,000	(36)	(1,350)

more effective pedagogical training. Also, the new degrees will be more on a par with other study programs in higher education. It is expected that the reform will raise the standard of teacher education, as well as that of teaching, and will result in a more homogeneous teaching cadre. Provisions for inservice training are negotiated in collective-bargaining agreements. General-education teachers attend three planning and training days each year. However, a considerable proportion participate part-time in more extensive individual studies at the summer universities (which have purpose-made programs) or in other forms of adult education.

The vocational sector involves an even greater variety of teachers' backgrounds, training, and experience. General-subject teachers will usually have the same qualifications as teachers in general education, while the rest have a more vocationally oriented and/or practical training background. Professional or vocational education or degree studies followed by separate pedagogical studies has been the principal mode and will continue to prevail in the future. To a lesser extent, teacher education is given as an integrated course at the 20 institutes providing vocational teacher training. The overall rate of formal certification among teachers in vocational education is about 65 percent.

5. Curriculum

In the comprehensive and upper-secondary schools, subjects are defined by law. Time allocations and optional subjects are laid down by decree. Thus, there is a national framework within which municipal authorities prepare their local curricula, subject to approval by provincial authorities. The new education law which came into operation in 1985 effected an increase in the powers of municipal decision making regarding time allocations and the contents of teaching, and assigned schools more freedom in deciding on the grouping of their students. Although preserving a unifying and advisory role for the National Board of General Education, such innovations imply a trend towards decentralization of decision making in curricular matters.

In the comprehensive school, the syllabus is essentially the same for all pupils, though instructional methods are individualized. Starting in 1986, the earlier system of setting different courses for different levels was replaced by a program with relatively uniform objectives, intended to provide each student with a general eligibility for all further studies. Although the relative shares of different subject domains are increasingly difficult to determine as national averages, it may be estimated that languages take about 33 percent of all

Table 3
Numbers of teachers, students, and educational institutions, 1981

	Comprehensive and special schools	Upper-secondary schools	Vocational education	Higher education
Total institutions	4,870	434	535	21
Total teachers (TCH): full-time	37,602	5,788	10,614	4,990
Total teachers (TCH): all	40,041	6,377	14,385	6,471
Total students (STD)	590,118	111,946	142,342	86,026
STD/TCH (full-time)	15.7	19.3	13.4	17.2
STD/TCH (all)	14.7	17.6	9.9	13.3

1. Goals of Education

The broad aims of education as set out in the 1981-85 development plan for Fiji are to:

- provide a balanced program of education for the full development of children as individuals in a changing society, taking into account their abilities, interests, and aptitudes;
- develop Fiji's human resources in such a way as to guide all citizens towards productive activity, in accordance with national needs, thereby accelerating economic development;
- encourage a greater sense of national awareness, self-reliance, and pride in being a citizen of Fiji; and
- promote the cultural identities of Fiji and its people amidst increasing contact with the outside world.

2. Structure and Size of the Educational System

While, in the years before the Second World War, there was an imbalance in school enrollments between the two major racial groups, Fijians and Indians, with a smaller proportion of Indians in attendance, after the war and particularly since independence in 1970, a high percentage of all ethnic groups have attended both primary and secondary grades. By 1979, over 94 percent of the nation's 5½- and 6-year-olds were in grade 1 of the six-year primary school, and nearly 92 percent of those aged 12 were enrolled in the first year (grade 7) of the four-year junior-secondary school. Nearly 70 percent of the age group finished the junior-secondary level (grade 10) and almost 20 percent completed senior-secondary school (grade 12).

As school enrollment statistics in Table 1 show, during the 1979 school year Indians outnumbered Fijians and other ethnic groups at all levels of the school system. Males composed 51 percent of the enrollment and females 49 percent. Fijians and Indians together made up 92 percent of the total number of students.

Table 1
Student enrollment 1979

Ethnic group	Primary school		Secondary school		Total		Grand Total
	Male	Female	Male	Female	Male	Female	
Fijian	30,327	28,791	7,084	7,575	37,411	36,366	73,777
Indian	32,189	31,331	10,438	10,610	42,627	41,941	84,568
European	1,184	1,174	287	348	1,471	1,522	2,993
Chinese	391	401	160	183	551	584	1,135
Others	1,846	1,664	718	710	2,564	2,374	4,938
Total	65,937	63,361	18,687	19,426	84,624	82,787	167,411
Overall total	129,298		38,113		167,411		

Whereas in earlier times Fijians and Indians generally were separated into different schools, in more recent years there has been a regular shift to mixed-race schools, with nearly 52 percent of primary schools and 83 percent of secondary schools being multiracial by 1971.

Not only has a strong social demand for education stimulated the expansion of the school system in size, but greater interest in schooling as job preparation has caused growth in vocational studies. A technical institute, opened in 1969, became the Fiji Institute of Technology in 1978—a national institution furnishing training in a wide range of technical fields at various levels of specialization. In addition, by 1979, of the nation's 134 secondary schools, 90 offered home economics and 86 taught woodworking, metalworking, and technical drawing.

Fiji's higher learning institution is the University of the South Pacific, opened in 1968 to serve the surrounding Pacific island area. In 1981, children in the nation's nursery schools and kindergartens totalled 4,536. The enrollment in primary schools was 116,318, in secondary schools 48,618, and in the university 2,299. At the secondary level, 94 percent of the students were in general academic schools and 6 percent in vocational programs. The proportion of male to female pupils was 50/50 at the preschool level, 51/49 in primary schools, and 49/51 in secondary schools. The numbers of teachers were 217 in preschools, 4,150 in primary schools, and 2,749 in secondary schools. The teacher/pupil ratio in primary schools was 1:28 (UNESCO 1984).

3. Administration and Finance

Education in Fiji is a partnership between the state and private bodies. Only 6 percent of the student enrollment comes directly under the Ministry of Education. The rest are under 32 other agencies, many of them church groups. However, once a school is approved by the ministry on the recommendation of the inspectorate division, the ministry pays either a portion or all of teacher salaries and provides other subsidies.

Expenditure on education in 1980 was 315 million Fiji

dollars, which represented 17.6 percent of the government budget. In addition, large sums were spent by private organizations, such as the religious and social-welfare bodies that sponsored schools.

In the 1970s, the government inaugurated a policy of free-of-charge primary education up to grade 8, which helped greatly to open access to education, particularly in the poorer areas of the nation. However, while the government's contribution has aided substantially in paying the cost of education, individual schools must also raise money on their own in order to mount adequate programs.

4. Curriculum Development

Because the Fijian school system traditionally permitted each school to create its own curriculum (as most schools were operated by private groups), there was no standardization in courses of study until the government established a curriculum development unit in 1968. Since that time, greater standardization and renewal of curricula at all grade levels have progressed through the operation of curriculum workshops in each subject field. After workshop members devise the curriculum design and the contents, the new materials are tried out in pilot schools, and inservice preparation is given to teachers. Following the try-out and subsequent revision of the material, the curriculum is disseminated throughout the nation, accompanied by inservice teacher training in all parts of the country.

The new curriculum designs emphasize pupil understanding of subjects rather than rote learning, and they encourage pupil participation rather than depending heavily on teacher lecturing. The changes in instructional materials and teaching methods have encountered several difficulties. One problem with the written materials (in English) has been that of arriving at the appropriate level of complexity of language for each grade level. There continue to be classrooms in which pupils are encouraged to memorize what the teacher says and offer back the memorized material in the examinations which remain as important determinants of pupils' progress up the schooling ladder.

5. Teaching Personnel

The teaching corps over the decades has grown in size and in professional preparation. In 1925, there were 1,204 teachers and by 1980 there were 6,738, with 4,304 at the primary level and 2,434 at the secondary level.

In the past, a large proportion of the teachers were untrained professionally, but by 1980 there remained only 50 primary and 380 secondary teachers without professional training, and a substantial number of these were volunteers rather than regular appointees. In the 1940s, a typical candidate applying for entry to teacher training only had a passing score in the qualifying examination taken at age 16, but by 1980 candidates must have passed the country's university-entrance examination.

In order to improve the status of teachers and make the profession more attractive to able candidates and inservice personnel, the government in the 1970s provided marked increases in pay for teachers, with the result that 80 percent of the national education budget went to salaries.

The composition of the teaching force for elementary and secondary schooling in 1979 is displayed in Table 2.

6. Future Prospects

It seems clear that the system of non-state-sponsored education will continue in the future, with the Ministry of Education paying teachers' salaries. The expectations of parents and students about the importance of schooling for securing desired employment will likely rise, so that more students continue to higher levels of school, perhaps resulting in "qualification inflation," with graduates being overqualified for the available jobs. Despite educational leaders' efforts to increase vocational and technical education, the traditional academic curriculum still remains the dominant form offered in most schools.

With regard to the curriculum, two problems remain to be solved. First is the difficulty teachers experience in revising their teaching methods to fit the departure from rote learning and lecturing that is required by the most recent revisions of the curricula. Second is the question of what place the vernacular languages, particularly Fijian and Hindustani, are to play in schools which conduct classes in English.

Administrative problems to be faced are those of (a) individual school principals raising money for equipment and buildings, since government funds are available almost exclusively for teachers' salaries, and (b) better decentralization of the administrative structure, because at the beginning of the 1980s district administrative offices were understaffed in terms of numbers of staff members and their qualifications.

Table 2
Ethnic composition of teaching force 1979

	Fijian		Indian		Others	
	Male	Female	Male	Female	Male	Female
Primary school	749	980	998	1,163	118	50
Secondary school	305	257	721	485	152	134

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Finland

K. Leimu

The Republic of Finland, with an area of 337,000 square kilometers (130,116 square miles), is the sixth largest country in Europe and, apart from Iceland, the most northerly country in the world. Regional differences due to climatic and other geographic influences are notable, affecting patterns of population and livelihood. Natural resources are modest, with thin soils and a short growing season. Small amounts of most important minerals are found, satisfying a good deal of domestic demand. There is no oil, coal, or natural gas, all of which have to be imported. Forests are considered the principal national resource. The cultivated area (9 percent) is equal in proportion with that covered by inland waters, while forests and marshy land (covering 65 and 32 percent respectively of natural-state terrain) dominate the "average" landscape.

After some 600 years under Swedish rule and then 100 years of Russian domination, Finland gained independence in 1917. Two phases (the Winter War of 1939-40 and Continuation War of 1941-44) of the Second World War resulted in the loss of 12 percent of territory and the payment of heavy war reparations. After these traumatic experiences, a determined, active policy of political neutrality towards and friendly exchange with other nations has characterized Finnish political, socio-cultural, and economic policies.

The population in 1980 was 4.78 million, with an average density of 15.5 persons per square kilometer but with half of the population living in one-tenth of the

total area, in the south. There have been dramatic changes in urbanization and occupational structure. In 1920, the urban/rural distribution in percentage terms was 15:85; in 1950, it was 30:70; in 1970, 50:50; and in 1980, 60:40. Table 1 reflects the changes in occupational structure. The general trend of movement away from rural areas not only boosted urban centers but resulted in emigration (notably to Sweden), which within 25 years totaled over 300,000 people, mostly of working age.

There are two official languages: Finnish, spoken by 93.5 percent of the population and Swedish, spoken by 6.3 percent. Both are compulsory in education, and each language group has its own schools but with similar curricula.

The Constitution provides for a parliamentary system with a unicameral legislature of 200 members, elected by those over 18 years. The president holds supreme executive power. He appoints members of the government who represent the 12 ministries. There are 12 provinces and 461 municipalities, the latter having representational self-government. Eight parties are currently represented in the parliament, with a wide range of philosophies from Marxist left to moderate conservatism.

Finland has a mixed economy, based on free enterprise and private ownership, but with considerable state involvement in planning and financing in many sectors. In industry, the state is the owner of only a few

Table 1
Percentage of population by livelihood, 1920-80

	1920	1940	1960	1970	1980	Share in GDP, 1977
Agriculture, forestry, and fishing	65	52	32	18	9	11
Manufacturing and construction industry	15	21	30	30	27	39
Services, public office	3	6	11	14	18	21
Commerce	4	5	10	13	14	14
Transport and communications	3	5	7	7	7	11
Other (unknown or economically inactive)	10	11	11	19	25	4

companies. In 1965, 98 percent of arable land and 60 percent of the forests were privately owned; 75 percent of industrial workers were employed by private firms and 10 percent by state companies. Since 1960, industry has replaced agriculture in economic importance. The main industries are wood, metal, food, and chemicals. The per capita gross national product (GNP) in 1978 was US\$6,820, making Finland the 17th most wealthy nation in these terms. Its annual growth rate averaged 4.1 percent between 1960 and 1978, with unemployment rates between 2 and 8 percent (about 5 percent in 1980). The average rate of inflation in the 1970s was about 11 percent.

Foreign trade is of vital importance to Finland, which has a narrow production structure and a small domestic market. It has to import energy and raw materials. In 1979, its main trading partners were: the European Economic Community: 34 percent of imports, 41 percent of exports; European Free Trade Association: 20 and 24 percent respectively; Council for Mutual Economic Aid: 23 and 16 percent; and developing countries: 12 and 8 percent. The main individual trading partners in 1979 were: the Soviet Union, Sweden, the Federal Republic of Germany, and the United Kingdom.

1. Goals of Education

The major principles of Finnish educational policy are:

- to secure, through continuous development, a level of education necessary for responding to the demands, and mastering the process, of scientific-technological and social development;
- to promote educational equality in terms of a more balanced distribution of material and pedagogical resources;
- to develop the content of education in order to foster democratic values and progressive attitudes, while responding to the demands of universal human rights and of international exchange and cooperation;
- to develop education so that more and more people will have their share of the various cultural facilities and be able to assume an active role in the continuous development and enrichment of culture.

Such principles underlie the profound developments which took place throughout the Finnish educational system in the 1970s and early 1980s. During this process, the old parallel school system gave way to a new comprehensive-school system, secondary education acquired new depth and relevance, and higher education underwent changes to make it more effective and responsive to the needs of society. In general, public interest in, and the status of, education in Finland is very high, and educational services are greatly valued as part of the privileges a society can offer.

2. Structure and Size of the Educational System

Figure 1 presents the overall structure of the educational system. Strictly speaking, preprimary education is not part of the educational system, since it comes under the Ministry of Social Affairs. At the beginning of the 1980s, there was no compulsory preschool education, although a system of day care centers existed, mainly for 6-year-old preschoolers, with a total of 120,000 places. The actual need was estimated as twice as much. Day care is financed generally by municipalities (which receive state aid), though sometimes by industrial enterprises, organizations, and even individuals. In 1978, the system provided places for 18 percent of 4-year-olds, 22 percent of 5-year-olds and 43 percent of 6-year-olds, about one-third of these attending full-time. There is no fixed curriculum, although unified educational objectives are stipulated. Activities are generally creative, designed to promote verbal and social skills. Teacher education is provided both in five kindergarten-teacher institutions and at six universities. Competition for entry is keen. Plans exist for integrating preprimary education into the school system and lowering the official age of entry to school by one year.

The term "comprehensive school" denotes the post-1972 nine-year school providing compulsory education between ages 7 and 16. These schools cater for whole age cohorts, in contrast to the previous parallel branches of either primary (folk) and civic schools (6 + 2 or 3 years) or primary and selective junior-secondary schools

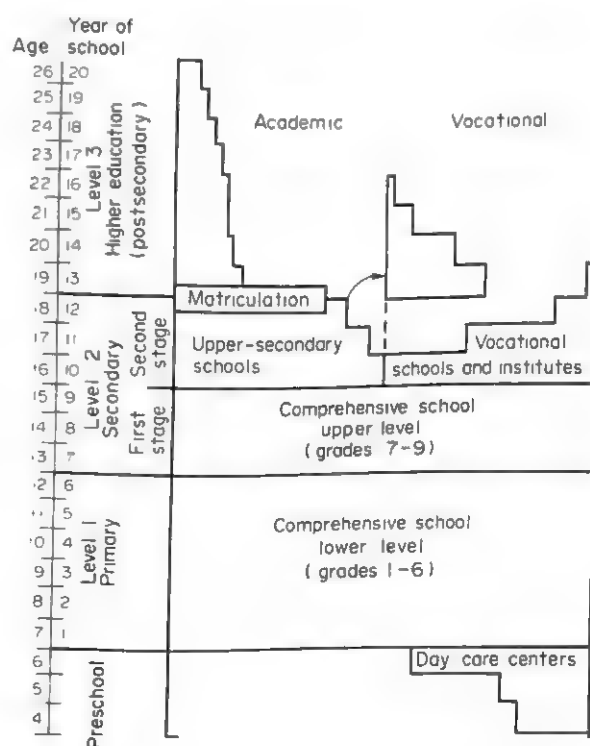


Figure 1
Structure of the educational system, 1980

(usually 4 + 5 years). The new system was phased in between 1972 and 1977, starting with schooling in the less privileged areas.

The comprehensive-school program is divided into a lower level (primary stage) of six years, with class teachers, and an upper level (lower-secondary stage) of three years, with subject teachers. A voluntary 10th grade is being introduced in the mid-1980s as a municipal responsibility for educational and employment reasons. All students in an age group attend the comprehensive (or special) schools until their compulsory education is completed. In 1981 there were some 590,000 students in the 4,870 comprehensive (or comparable) schools, including about 3,940 lower-level and 590 upper-level units, some 290 special schools (for instance for the educationally subnormal and the deaf) and some 40 schools "comparable" to regular comprehensive schools (such as special training schools). In some 350 of these, lessons were conducted in Swedish. Special education, in principle, is integrated in the regular schools. Of the 95,000 pupils involved in some form of special instruction (16.5 percent of all pupils), the great majority (84 percent) are in part-time remedial classes and the remaining 16 percent in full-time special education programs. About half of the latter (15,000) are mildly educationally subnormal, the other half being mostly disturbed/maladjusted, or having more severe forms of subnormality. The number of teachers totaled approximately 38,000, providing an overall student/teacher ratio of about 15:1.

The comprehensive school is free of charge for all pupils. The municipalities, who own the schools, provide the learning materials and a daily meal and other social services, such as dental care. In a sparsely populated country, transportation has to be provided daily for 30 percent of the students.

The three-year upper-secondary schools developed as the upper segment of the selective secondary schools, providing academically oriented education. With the comprehensive-school reform, and particularly with developments in the vocational education sector, they came to be viewed as units providing general (i.e., not vocationally oriented) secondary education beyond the compulsory, basic level. In 1981, there were 112,000 students and 5,800 teachers in the 463 upper-secondary schools, with an overall student/teacher ratio of about 19:1. Pupil selection is based on a minimum overall level of achievement at the previous stage, and thereafter on an order of merit, although there is some room for discretion. In the early 1980s, approximately 50 percent of an age group continued their studies in the upper-secondary school, which terminates in the matriculation examination, passed by 38 percent of the (modal) age group in 1981. In 1983-84, 5 percent of the students in the upper secondary school repeated their grade, while another 5 percent dropped out, resulting in a total "wastage rate" of about 10 percent. In 1981, 63 percent of the graduates were females. Successful completion of studies provides for a general eligibility

for university-level higher education, subject to further specialized requirements.

Practically all vocational education, including temporary training and short courses, is institutionalized in Finland. A two-year apprenticeship scheme does exist, but the numbers involved have been very small. Plans for 1986-88 presume an increase in apprenticeship places as a supplement to institutional vocational education. Traditionally, there are two types of vocational institution, one-third of which are owned by the state: (a) vocational schools, which provide from one to three years training, generally in skilled manual work, after the comprehensive-school course and (b) vocational institutes (colleges), whose three- to five-year courses prepare students primarily for managerial and planning tasks. Entry is dependent upon a high standard of achievement at the end of comprehensive school, previous vocational education, or, in some fields, matriculation. Enrollments have increased rapidly, from 30,000 in 1950 and 55,000 in 1960 to about 146,000 in 1982. About 60 percent of these are in vocational schools and 40 percent in institution-level training. The number of places available annually in vocationally specialized preservice education in the late 1980s is 70,000 (excluding higher education), well exceeding the concurrent 16-18 age cohort numbers.

Both vocational and general-secondary education are being developed according to the comprehensive-school principle, in the sense of providing opportunities for specialized training at either a vocational institution or university. The fundamental educational goals and pattern of studies of each are comparable, and they provide relevant alternative channels to higher education. Implementation of the new functional pattern from comprehensive school through secondary education is taking place throughout the 1980s according to integrated planning.

The attempt to respond more immediately to fluctuations in demand and to unemployment has resulted in "temporary" and "employment" training courses. The former are regular-length programs, are completely state-supported, designed to make maximum use of existing structural provisions, and accommodated some 10,000 students in 1980. The latter are shorter (3-7-month) courses at "vocational course centers," which catered for 18,000 trainees. In addition, there are specialized inservice courses of a couple of weeks' duration, which had about 24,000 participants in 1980.

Figure 2 shows the development of enrollments, averaged according to the number of grade levels in each of the school types.

The total number of students in the 21 higher education institutions (of which 17 are universities) in 1982 was about 87,500 of which 50 percent were female. The number of places available each year is about 12,000, corresponding to approximately 17 percent of the relevant age group. Access is subject to the *numerus clausus* rule and entrance examinations, while also requiring a student to pass the matriculation examina-

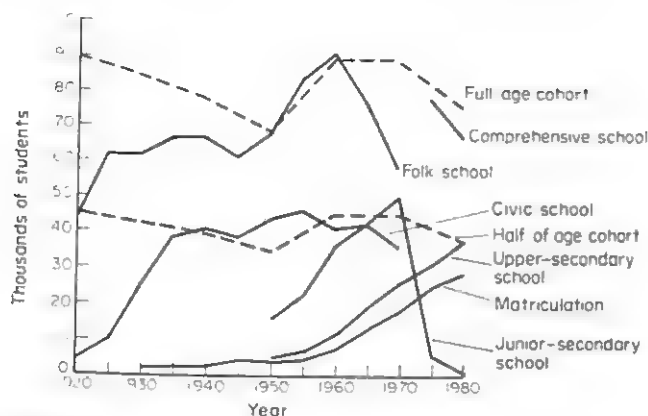


Figure 2
Average enrollments by grades in various categories of school, 1920-1980^a

^a Age cohort data represent an average for the 10-, 14-, and 18-year-old groups

tion; there is a quota of 5 percent for those without this particular merit. Those coming via vocational education will have a "restricted access" to 20 percent of places from the early 1990s.

The growth within higher education has been explosive, reaching an annual rate of 12 percent of all enrollments in the early 1960s. This was brought about by the rapid process of industrialization and urbanization and the growing attraction of the upper-secondary school, combined with the large postwar age cohorts reaching higher education age. Development of higher education has been characterized by quantitative growth, regional decentralization, administrative innovations, and degree- (study-) program reform.

The traditional pattern of university courses includes two levels of "candidate" degrees (roughly corresponding to the bachelor's and master's degree levels) and two levels of postgraduate degrees (licentiate and doctorate). In 1981-82, a total of 9,317 candidate degrees were completed, 53 percent by women; the number of higher degrees totaled 629, 20 percent completed by women. The overall "passed-through ratio" (graduates: starters) was about 80 percent, but this ratio varies considerably in different disciplines. The average annual drop-out rate in higher education was about 8.5 percent.

At the end of the 1970s, profound changes were implemented. The new degree courses were organized so as to be more professionally oriented, with study programs having practical relevance. An overall aim is to increase professional goal orientation in higher studies, as well as to promote systematic and cross-disciplinary planning of instruction. Program structure involves: (a) general studies, about 25 percent of total study time, (b) subject-oriented basic specialist studies (about 50 percent of study time), and (c) advanced specialized studies (about 25 percent of study time), providing practical applications and research training

through group and project work. The basic (M.A. equivalent) degree is expected to require full-time study of 160 weeks at 40 hours per week (about 4 to 5 years of total study time). However, for example, the training of specialized subject teachers will take 180 weeks and that of medical doctors, 240 weeks.

It is expected that the main challenges in the 1980s will lie in the development of supplementary inservice training, both as refresher and further specialization courses. The present number of participants in supplementary education is estimated at 15,000 annually, while another 40,000 pursue studies at some 20 summer universities, which are often conceived as a third regular term. The "open university" is expected to develop within the existing structural framework.

In 1978-79, about 860,000 participants were registered in adult education programs, representing about 23 percent of the population over 16 years of age. Despite its extensiveness, adult education in Finland does not comprise a unified system; rather, it takes place in a variety of voluntary forms, which may be categorized as either general education or vocationally oriented adult education. These activities are mostly the responsibility of the Ministry of Education and are supervised respectively by the National Boards of General and Vocational Education, which delegate to provincial governments. Many of the adult education institutes are owned, supported, and operated by municipalities. State subsidies cover 70 to 90 percent of operational expenses, however.

Civic and workers' institutes organize courses in basic and secondary formal studies, but also for hobbies and recreation. In the 1970s, interest in vocational courses increased. In 1980, there were 270 institutes, with an enrollment of 545,000. The folk high schools and folk academies provide general, civic, and vocational education, often in a particular value context (religious or political) or for the disabled and the handicapped. In 1979, there were 86 units in operation, with an enrollment of 6,500 in the basic programs and some 26,000 in the shorter courses. Study centers representing various ideological, political, and cultural views in Finnish society have adopted the "study circle" as one of the main approaches to free studies. These working collectives organize lectures, seminars, and coursework in small groups. In 1979, there were approximately 20,000 such circles, with 180,000 students. In addition, some 115,000 students participated in the 4,300 other courses, while 69,000 attended the 1,200 separate lectures. Evening secondary schools follow the same curricula as the corresponding day schools, making it possible for those who are working during the day to study in the evening. There are 39 units with a total of 13,000 students.

In addition, public libraries and summer universities provide opportunities for further cultural and intellectual development. There are some 1,900 libraries and 230 library buses in operation; an average of 14.7 books per person were lent out in 1978.

Vocational course centers are the main providers of adult education with explicit vocational aims. These centers are a joint venture of education and labor authorities. The duration of training varies from 3 to 18 months and is supported by free room and board and a training allowance. There are 43 vocational course centers, providing training for about 30,000 persons annually. In addition, separate courses are arranged by vocational institutions proper, as well as by universities. An extensive network of short (up to 10 days) inservice and complementary courses exists for those employed by either state or private enterprises.

3. Administration and Finance

Decisions on the principles of educational policy and programs are made by parliament. Educational and cultural affairs are the responsibility of the Ministry of Education, which is usually represented in government by two ministers. Some educational functions fall under the Ministry of Social Affairs and Health and the Ministry of Labor. Primary, secondary, and adult education are further administered by two central offices: the National Board of General Education and the National Board of Vocational Education, dealing with matters of a more practical kind (including supervision). Each of the 12 provincial governments have their specialist departments, for example, a school department for the provincial inspectorate and advisory services as well as other educational/cultural matters. Local administration is the responsibility of the 461 municipalities, which are self-governing, with a municipal council elected by popular vote. Several special boards function under the executive municipal board, one of these being for school affairs. Finally, each school has a board of directors for immediate supervisory and advisory purposes. Universities are directly under the Ministry of Education, which coordinates both quantitative and qualitative planning. In their internal affairs, universities are self-governing; the model of university administration is still under experimentation and development.

Whereas municipalities have the key role in organizing basic, general-secondary, and much vocational and adult education, state involvement in planning and in financing both operational and capital costs is decisive. The average state share in operational costs varies according to sector and to the "economic carrying capacity" of the municipality. It is estimated at between 70 and 80 percent, on average, extremes being about 50 and 90 percent. The percentage of the state budget allocated to education, science, and culture was 5 in 1920, 11 in 1930, 7 in 1950, 15 in 1960, and 18 at the beginning of the 1980s. Within the education sector, the distribution is as follows: general education (comprehensive schools and upper-secondary schools) 42 percent, vocational education 20 percent, higher education 15 percent, adult education 10 percent, art, culture, and free-time activities (including sports) 8

percent, and study allowances 5 percent. The share of educational costs in the municipal budgets has likewise averaged 18 percent. The trend of education expenditure as a percentage of GNP was 3.9 in 1930, 2.5 in 1940, 2.7 in 1950, 3.8 in 1960, 6.4 in 1970, 6.8 in 1975, and 5.7 in 1979.

In 1980, the per pupil cost was about US\$1,395 in comprehensive schools, US\$1,170 in upper-secondary schools, US\$2,110–2,790 in vocational education, and US\$2,925 in higher education (conversion rate: US\$1 = 5.7 Finnish markkas). As all formal education is free of charge for students, or involves a nominal tuition fee, study expenses beyond basic education consist mainly of living expenses and learning-material acquisitions. Direct support measures to students are the "study grant" and the "study loan." The former does not need to be paid back, the latter is a normal bank loan guaranteed by the state. Indirect measures to reduce study expenses take the form of various subsidized services. The condition for continued aid is progress in studies according to a normally accepted timetable. Table 2 presents information on study grants and study loans in 1980–81. The total sums assigned were US\$63 million as grants and US\$148 million as loans.

4. Supply of Personnel

Table 3 presents the numbers of teachers and students by type of institution. The present cadre of teachers represents a variety of training backgrounds. Class teachers (grades 1–6) may have a primary-school, junior-secondary school (now obsolete), or matriculation educational background, plus between one and five years of teacher training. The actual combinations are diverse and complex. Subject teachers (of grades 7–9) usually have a matriculation background, with a university or equivalent specialist training. In the upper-secondary grades (10 to 12), M.A. or equivalent certification is required. Subject teachers have undergone a separate one-year pedagogical coaching period at approved training schools. Appropriate certification is possessed by 91.4 percent of teachers in the comprehensive schools and 92.2 percent of teachers in the upper-secondary schools.

From 1979 onwards, a new system of teacher education became effective as part of a general university-level degree reform. The only way of entering the profession now is through the universities, where all teacher training (for general education) is organized under the aegis of faculties of education, of which there are seven. As a consequence, primary- and secondary-stage teacher education is now equal in duration (160–180 study weeks), irrespective of a teacher's future level of operation within the system. This is fundamental. The reform is extending the duration of class-teacher training and making it more scientific; in subject-teacher education, increased attention is given to the professional aspects of teaching, with the provision of a

Table 2
Student aid, 1980-81

Level	Study grants			Study loans		
	Number of grants	% of all students	Average sum per student (us\$)	Number of loans	% of all students	Average sum per student (us\$)
Upper-secondary	32,000	31	116	2,700	3	605
Vocational	104,800	86	363	61,300	50	1,116
Higher	39,000	54	460	39,800	55	1,744
Folk high schools	5,000	83	370	3,800	63	976
Overseas studies	2,200	—	530	2,400	—	1,930
Totals (averages)	183,000	(60)	(350)	110,000	(36)	(1,350)

more effective pedagogical training. Also, the new degrees will be more on a par with other study programs in higher education. It is expected that the reform will raise the standard of teacher education, as well as that of teaching, and will result in a more homogeneous teaching cadre. Provisions for inservice training are negotiated in collective-bargaining agreements. General-education teachers attend three planning and training days each year. However, a considerable proportion participate part-time in more extensive individual studies at the summer universities (which have purpose-made programs) or in other forms of adult education.

The vocational sector involves an even greater variety of teachers' backgrounds, training, and experience. General-subject teachers will usually have the same qualifications as teachers in general education, while the rest have a more vocationally oriented and/or practical training background. Professional or vocational education or degree studies followed by separate pedagogical studies has been the principal mode and will continue to prevail in the future. To a lesser extent, teacher education is given as an integrated course at the 20 institutes providing vocational teacher training. The overall rate of formal certification among teachers in vocational education is about 65 percent.

5. Curriculum

In the comprehensive and upper-secondary schools, subjects are defined by law. Time allocations and optional subjects are laid down by decree. Thus, there is a national framework within which municipal authorities prepare their local curricula, subject to approval by provincial authorities. The new education law which came into operation in 1985 effected an increase in the powers of municipal decision making regarding time allocations and the contents of teaching, and assigned schools more freedom in deciding on the grouping of their students. Although preserving a unifying and advisory role for the National Board of General Education, such innovations imply a trend towards decentralization of decision making in curricular matters.

In the comprehensive school, the syllabus is essentially the same for all pupils, though instructional methods are individualized. Starting in 1986, the earlier system of setting different courses for different levels was replaced by a program with relatively uniform objectives, intended to provide each student with a general eligibility for all further studies. Although the relative shares of different subject domains are increasingly difficult to determine as national averages, it may be estimated that languages take about 33 percent of all

Table 3
Numbers of teachers, students, and educational institutions, 1981

	Comprehensive and special schools	Upper-secondary schools	Vocational education	Higher education
Total institutions	4,870	434	535	21
Total teachers (TCH): full-time	37,602	5,788	10,614	4,990
Total teachers (TCH): all	40,041	6,377	14,385	6,471
Total students (STD)	590,118	111,946	142,342	86,026
STD/TCH (full-time)	15.7	19.3	13.4	17.2
STD/TCH (all)	14.7	17.6	9.9	13.3

instructional periods, mathematics and science subjects 30 percent, social and humanistic studies 12 percent, while art, physical education, and others, including optionals (in the last two grades), account for about 25 percent. Compulsory subjects comprise from 21 to 30 periods per week, leaving a maximum of four for the optionals. There is no terminal examination, regular report cards providing the final assessment. In 1978, less than 1 percent repeated a grade.

In the upper-secondary schools, 35 to 43 percent of the curriculum is allocated to languages (depending on the choice of courses), 22 to 29 percent to mathematics and sciences, 18 percent to social and humanistic studies, and 18 percent to arts, physical education, etc., in the common program. About one-fifth of the courses are electives. Computer education has quickly gained a high status, and is offered by all upper-secondary schools (which is the level at which introduction to computing generally occurs). A new syllabus for the upper-secondary school was adopted by most municipalities in 1987, again making it more difficult to determine precise national averages for various program choices. The terminal (matriculation) examination tends to accentuate the language bias. Written examinations are set by the National Matriculation Board and marked centrally as well as in the schools. A more extensive set of oral tests for the school-leaving certificate is given by the respective teachers. Instruction was traditionally organized according to grade groupings and streams. In 1982, a new pattern was introduced, comprising study-period units organized by grade, each unit involving 38 class hours per subject, with specified objectives. Each of the six units per academic year has its own combination of subjects and content; completed units make up a course. This arrangement is meant to help students to assume personal responsibility for their learning and to facilitate the later transition to more independent higher education studies.

The curricula in regular vocational education are drawn up by the National Board of Vocational Education together with the institutes involved. The different curricula are divided into general-education subjects, vocational education subjects, and practical training. The share of these varies according to the field and level, being roughly 11, 53, and 36 percent respectively. In some fields, additional training at real work sites is required.

The new functional structure divides the vocational field into *basic lines* of study, each line consisting of a "general studies phase" and a "specialization phase." Particular combinations of these constitute the basic units of educational content, called "trained vocation." This is a broader entity than any particular job. There is a total of 25 basic lines, containing altogether 240 such broad programs of specialization and replacing the traditional 650 specific curricula. Previously, selection of the *level* of education preceded the selection of its *field*, the level being chiefly determined by the student's general education. In the new system, the career will

be developed in two main steps: the vocational field is chosen first, and thereafter the level of studies. Within the basic lines, the student may enter progressively advanced studies, even up to higher education. This is likely to increase a person's freedom of choice and, on the other hand, to provide for a more flexible labor force.

The complete procedure of proposing, preparing, and accepting a set of learning materials is detailed by the national boards. All materials have to be approved by the central office before becoming eligible for state subsidies from municipal funds. The controlling procedure is important, although it does not in itself exclude any material from being used. A central role in the production of learning materials is played by various commercial publishers (their work being supplemented by local efforts). The National Board also has responsibility for the overall supervision of inspectorate affairs, setting guidelines for school inspection work, giving expert advice and training, and conducting actual inspections. The provincial school departments conduct regular inspections on all educational work.

In the vocational sector, curriculum problems tend to be greater because of the diversity of specialized programs. Here the National Board of Vocational Education assumes an even more dominant role by directly engaging in development work and authorizing all curricula, which then apply nationally. Variety results from local needs and potentials, which are allowed some freedom within the national design.

6. Educational Research

Apart from academic theses and isolated ad hoc research ventures related to curricular reforms in the 1940s and 1950s, educational research as a field of specialization dates only from the early 1960s. Its organization has the following pattern:

- (a) Research is commissioned by the Ministry of Education or one of its central offices and is aimed at serving the system's planning needs.
- (b) The Academy of Finland (under the Ministry of Education), as the central organization administering all public scientific endeavor, sets priorities for, coordinates, and funds research in the social (as well as other) sciences. Education was allotted less than 5 percent of these resources in the 1970s.
- (c) Institutes of higher education, especially those with a faculty of education, have considerable research potential, given their personnel and expertise. Their main task, however, is related to pre- and in-service education.
- (d) Permanent research units, with full-time research officers, are capable of undertaking long-range ventures. The main unit is the Institute for Educational Research at the University of Jyväskylä, which

absorbs about 80 percent of commissioned research funding.

Resources devoted to educational research have experienced a dramatic rise and fall, particularly in the commissioned sector, reaching a peak in 1974. In 1982, about 0.7 percent of the running costs of all state-financed research projects were devoted to educational studies, comprising about 0.05 percent of public funds devoted to education itself.

7. Major Problems

At the beginning of the 1980s, the major problems in the educational system concerned fundamental structural and quantitative developments over the whole spectrum of formal and nonformal studies. The main needs were: improved access to education, improved flexibility in the organization of studies, and improved student financial and pedagogical support. In the later 1980s and 1990s, problems are likely to concern issues of detailed and concrete program development and implementation, in which teaching strategies and student-learning processes will need major attention. The main administrative problems have to do with the delegation of decision-making powers to municipal and school levels.

More specifically, these problems will include: contents, processes, and criteria of local decision making in educational matters and in resource allocation; coordination of local curricula within the national framework; and program differentiation for individual students, combined with pedagogy of heterogeneous groups.

Other general problems will include: responding to the need for educated persons in Finnish society by taking account of changes in the employment structure, the new competencies required, new patterns of education, and diminishing age cohorts; the relevance of structure and content in curricula to individual and

national development; availability of well-educated teachers to implement the intended programs, given the increasing attraction of work in other sectors; and the feasibility of planned innovations, in terms of financial and human resources, quantitative and qualitative processes, and not least in terms of student attainments, attitudes, and interest.

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France

J-C. Eicher

In common with all countries which have a long history and are forced to adapt to a rapidly changing world, France has an educational system which is at the same time highly institutionalized and in a state of permanent reform.

History explains why the formal system is extremely centralized and bureaucratic. A changing world has destabilized what has been called a "sleeping giant," first by opening the high schools and universities to many new students, a majority of whom come from social groups formerly underrepresented; and, second, by forcing successive reforms which have not always been happily accepted or assimilated.

This huge and rigid structure is now confronted with a demand for permanent education to which it is unable to respond. But the contractual and adaptable nature of the many programs which are developing in the early 1980s are an example which the formal educational system must follow if it is to play its role in social and economic change.

1. Background

France is, with an area of 549,000 square kilometers (211,970 square miles), the largest country of Europe after the Soviet Union. Its size has not changed since

1918, except for the war years between 1940 and 1945, when Germany once again annexed Alsace-Lorraine. This *chassé-croisé* of the two provinces between the two countries had minor but significant effects on the educational system, especially on the status of students in those two provinces.

The climate is temperate but the existence of high mountainous regions in the Alps and the Pyrenees imposes constraints on the organization of schooling, necessitating regrouping of pupils in winter, a higher proportion of boarding pupils, etc.

The population numbers 54 million, the fifth largest in Europe, after the Soviet Union, the Federal Republic of Germany, Italy, and the United Kingdom. Population density is low for Western Europe (slightly below 100 per square kilometer, compared with 170 for the European Community).

The number of local communities (*communes*) is extremely high: 36,934, approximately three times as many in relation to population as in other Western European nations. Most of the local communities are very small (over 10,000 have less than 200 inhabitants) and are not allowed to retain a primary school because theoretically a school with less than 12 pupils must close.

Between 1900 and 1945, population growth was extremely slow in France, and new places had to be created in primary education. But the increase in fertility during and after the Second World War was spectacular. The first result was that over 1.2 million extra pupils entered primary schools between 1951 and 1956, an increase of 40 percent over the preceding period. This demographic wave hit secondary schools from 1957 onward, and then the universities. Fertility remained almost stable until around 1965, when it started to decline, bringing about a decrease in the school-age population since 1972 and causing the closing of many small primary schools. France has experienced rapid urbanization since the mid-1950s. The proportion of the population living in urban areas has increased from 56 percent in 1955 to around 75 percent in 1982. The Paris megalopolis alone has 16 percent of the population and other cities of over 50,000 inhabitants have another 29 percent.

The ethnic composition of the population is, on the whole, homogeneous after two centuries of a strongly centralized administrative organization. But in the early 1980s, there was a revival of the study of local languages, especially in Brittany, Alsace, the Basque region, and Corsica, and training in these languages is now offered in teacher-training institutions. The fairly high number of foreign workers and their families (over 4 million people in all) has also given rise to changes in curricula and teaching methods with the creation of special classes for foreign children.

At the beginning of the 1900s, France was still a predominantly rural country with a sizeable proportion of the active population working in agriculture. This proportion decreased slowly but steadily from around 50 percent in 1900 to 36 percent in 1946. France has

since undergone a rapid process of industrialization and of agricultural modernization so that in 1985 only 8 percent of the active population were farmers. One consequence for the educational system of these transformations in the occupational structure was the rapid expansion of technical training and therefore of technical high schools (*lycées techniques*) separate from the more traditional general high schools.

The sharp decrease in the size of the primary sector benefitted mainly the tertiary (services) sector. From 1962 to 1975, while the number of active persons in agriculture decreased by 47 percent, the number in the services increased by 35 percent and in the manufacturing industry and transportation by only 13 percent. During the same period, three-quarters of newly created jobs were in the services sector, especially in government agencies and local communities. This encouraged the demand for general education.

The government structure has not changed for a century. The three successive republics since 1875 gave priority to public education. A series of laws passed during the 1880s organized universal, free public primary education, reorganized the training of primary- and secondary-school teachers, and introduced new higher education diplomas. Public schools were promoted and private schools curbed. After the Second World War, the governments of the fourth and fifth republics continued to attach importance to education at least until the student riots of 1968.

During the whole period, the educational system was highly centralized and under the direct control of the central government. Reforms undertaken in the early 1980s gave much more independence to regions, departments, and local communities but their full impact is not yet known.

2. Goals of the Educational System

In order to understand official government goals and how they agree or conflict with those of individuals, one should go back at least two centuries, but there is enough unity in the debates over the role of the school since the beginning of the third republic (1875) to limit such a survey to the last 100 years.

When the third republic was instituted, there was little cohesion in French society, with a deep-seated antagonism between those who had not accepted the French Revolution and the republic and those who had fought for them. In the field of education, these two groups sent their children to different schools: private religious schools, on the one hand, and public schools, on the other.

The most urgent task of the new regime was to establish some kind of national unity. As it was manifestly impossible to reconcile the philosophical choices of the two groups, the only means left was to promote nationalism. This was managed mainly through the schools by the promotion of uniform textbooks emphasizing the continuity of France since the old regime (the

monarchy) and the setting up of a rigidly centralized system. The result sought was fully attained, so that one of the most acute observers of the evolution of the school system, Antoine Prost (1968) felt able to conclude that "in spite of increasing criticism, France is (between 1880 and 1930) on the whole satisfied with its schools; more, she is proud of them." But this does not mean that outside of the promotion of nationalism, the goals were always clear nor that they were unique. Indeed, the French school system as it was set up at the end of the nineteenth century was far from united, despite appearances to the contrary.

At the primary level, where school was free, compulsory, and nondenominational, two parallel networks were maintained: the municipal public schools, on the one hand, and the "small classes" of the public high schools (lycées), on the other. This last type of establishment was frequented by the children of the bourgeoisie, who always resisted sending their offspring to the same schools as the children of the populace. At the secondary level, the split was even more open: the lycées were reserved for upper- and middle-class children, and the working classes sent their children to the "higher primary schools" (as they were then known) and then to vocational schools. In lycées, the numbers of students remained more or less constant until 1920, but the numbers in higher primary schools increased steadily and rather rapidly.

The explicit aim of the lycées was to train an elite, and the teaching of Greek and Latin predominated since these subjects were considered invaluable for the formation of the mind. During the same period, and until the Second World War, another goal of the educational system—the training of qualified personnel—began to be emphasized in official statements. But it was clearly downplayed by the teachers themselves, who tended to despise manual work, which is why all efforts to introduce vocational training in the primary schools failed. After the First World War, a group of veteran teachers attempted to promote reforms based on the principle of an overall vocational culture for all, but the first government efforts towards democratization can be dated to 1936, in the measures of the government of the *Front populaire*.

An intense effort to rethink the educational system was carried out after the Second World War and is summarized in the report by the Langevin-Wallon Commission (1947). For the first time, educational aims were clearly defined. The school system should (a) promote equal chances in life for all; (b) satisfy the needs of the productive system for qualified personnel; and (c) give priority to the development of the personality of each child.

None of the precise proposals for the implementation of these goals were adopted by the government. One reason was probably that these aims are in part contradictory and that the government did not want to make choices between them. Another was that the cost of implementing the reforms was high and that the

consensus in parliament about the priority to be given to education which existed when the commission started its work, was no longer present in 1947, when the report was published.

Nevertheless, these aims were reaffirmed in the reports of each successive planning commission for education from the third plan (1958–61) onward. However, on the whole, more resources were devoted to adapting the educational system to the needs of the economy than to promoting equality of opportunity. This can be explained partly by the fact that a majority of "vocal" citizens and teachers have remained attached to an elitist conception of education.

The fact that students were not satisfied with the system was made clear in 1968. The government gave in to their demand for more equality in education by leaving access to higher education open. But, in the following years, the number of fields with a "closed" or "semiclosed" entrance increased, and by the early 1980s, students had resigned themselves increasingly to using the "open" sector for consumption purposes and to postpone entrance into the labor market. Since the beginning of the 1980s the goals of higher education are being rethought and the government is trying to promote professional streams.

3. General Structure and Size of the Education Effort

3.1 Formal Education

Most of the formal educational system in France is highly centralized and is controlled by the Ministry of Education. As shown in Fig. 1, preprimary education is quite developed. Children may start school at the age of 2. The proportion of those who begin at that early age increased from 10.4 in 1964 to 37.0 percent in 1982. The proportion is highest in low-income families in which the mother is working outside the home and lowest for farm children. Some 91 percent of 3-year-olds were in school in 1984 (as compared with 42 percent in 1964) and in cities the percentage is nearly 100. For 4- and 5-year-olds, preprimary education has been universal in France since 1977. It is unlikely to become truly universal for 3-year-olds and to increase for 2-year-olds because many parents are reluctant to send children of that age to school and because it is almost impossible to organize classes for 2-year-olds in the more thinly populated rural regions. The percentage of 2-year-olds in school has decreased even since 1982 from 37 to 31.8 in 1985.

This is not to be deplored since some research evidence shows that children with four years of preprimary education achieve, on average, worse results in compulsory schooling than those who have only three years (SIGES 1982).

All children between 6 and 10 except the handicapped go to primary schools. Total enrollment has been decreasing since 1969 mainly because of the drop in

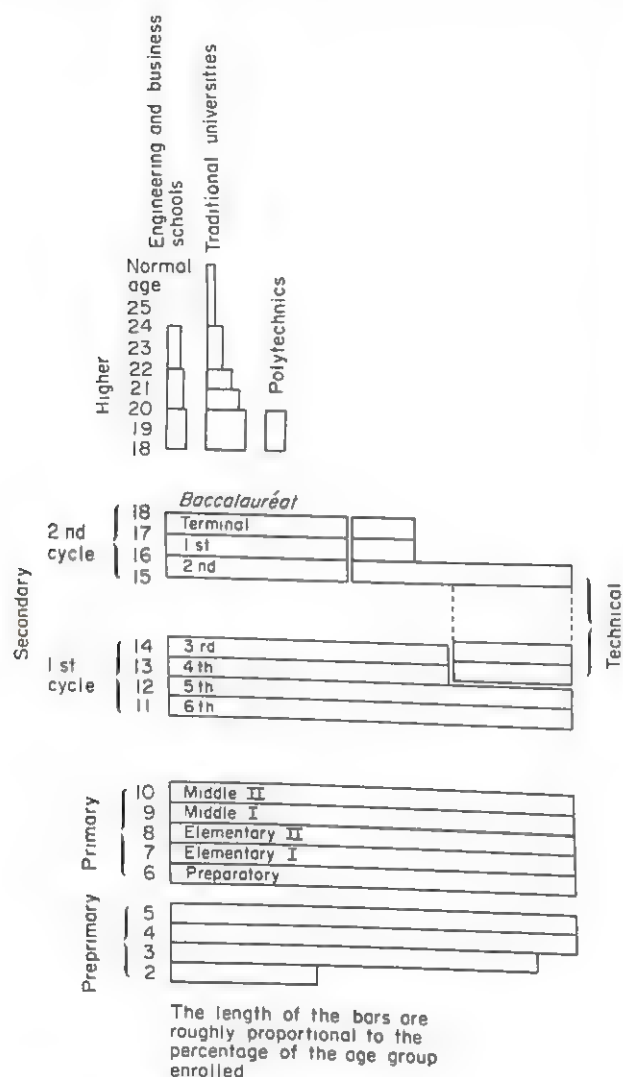


Figure 1
Organization of formal education

fertility rates. It is expected that by 1986 there will be 500,000 fewer pupils in primary schools than in 1979 (a drop of 11 percent). Approximately 13 percent of primary pupils go to private schools but these schools follow the same curriculum as the public ones and are mostly controlled by the Ministry of Education. The "special" schools for handicapped and disturbed children increased rapidly in number between 1960 and 1976. But this trend has been reversed in recent years as a result of the policy of mainstreaming these children in "traditional" schools. In consequence, the number of pupils in special schools has decreased from 141,000 in 1976 to 86,000 in 1984.

Dropouts are practically nonexistent because they are forbidden by law but automatic promotion is not the rule in French schools. Although the grade-repeating

rate has declined, it is still rather high compared with other countries. In 1984, around 25 percent of pupils repeated one grade and 9 percent more than one grade, which means that in 5 years only 66 percent finished primary school (50 percent in 1970). Statistical evidence shows that grade repeating is strongly linked with socioeconomic background. For instance, in 1984, only 7 percent of the children of high-level executives and professionals repeated one class while over 50 percent of the children of unqualified industrial workers did so.

Secondary education is in two cycles. For the first cycle, in principle, all children attend institutions called *collèges d'enseignement secondaire* (CES) for four years (or until they reach the age of 16). But after two years, about 30 percent of them are allowed to attend special classes, preparatory to technical education. The grade-repeating rates are between 8 to 10 percent at each grade level of the "normal" cycle but sometimes reach 20 percent in the classes preparatory to technical education. Some 20 percent of students go to private schools.

The second cycle of secondary education can be subdivided into two streams. The "long" stream leading to the *baccalauréat* and to higher education is divided between general high schools, attended by about 28 percent of a cohort, and vocational high schools, attended by about 8 percent. Private schools at this level enroll about 18 percent of a cohort. Around 17 percent repeat the first grade (*seconde*), 7 percent the second (*première*), and 21 percent the terminal year, when slightly over 30 percent of candidates do not obtain the *baccalauréat*. The "short" stream is purely technical and leads to the *Certificat d'Aptitude Professionnelle* (CAP) in two years. Around 30 percent of each cohort is enrolled in this stream.

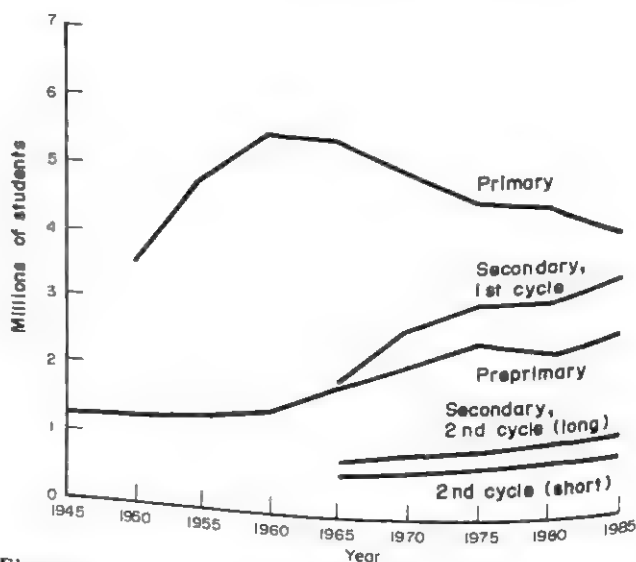


Figure 2
Enrollment in preprimary, primary, and secondary education 1945-85

The number of students in both streams has increased rapidly since the end of the 1950s (see Fig. 2), but because of the drop in fertility rates since the late 1960s this trend is coming to an end. It should be noted that, in spite of this fast increase in enrollment, about one-third of each cohort still leaves the educational system without completing secondary education and without a completed professional training. Of those who do complete secondary education, about 50 percent are at least one year older than the "normal" age. There are also important regional differences. On average, students in southern France stay in school longer than those in the northern half of the country. Proportionately more also go into the "long" stream and into general education. For example, in 1978 the proportion of 18-year-olds still in school was 34.7 percent in the Academy (region) of Limoges, 33 percent in the Academy of Aix-Marseille, and 31.2 percent in the Academies of Toulouse and Montpellier, whereas it was only 17.9 percent in the Academy of Strasbourg, 19.9 percent in Amiens and Rouen, 20.5 percent in Besançon, 21.5 percent in Orléans-Tours, and 21.7 percent in Nancy. The proportion of those in the "short" stream during the same year was 32.7 percent in Nice, 35 percent in Toulouse, 36 percent in Aix-Marseille, and 37.9 percent in Montpellier, while it was as high as 44.8 percent in Rouen, 44.4 percent in Lille, 44.3 percent in Besançon and Caen, and 44.2 percent in Nancy-Metz.

These contrasts can be explained partly by differences in cultural traditions in the two halves of the country, but economic reasons are important too. The southern provinces are less industrialized, and employment can be found mainly in the tertiary sector, especially in general education and the civil service, where a degree in general education is generally a prerequisite for a job.

Inequalities among children of different socioeconomic backgrounds are even more striking. The percentage distributions in 1981 in the first grade of the second cycle of secondary education are shown in Table 1.

Females are now a majority in the long stream of the second cycle of secondary education (56 percent in 1984), but a minority in the short stream (41 percent in 1984).

The total number of students in higher education has increased 17-fold since 1930 and 7-fold since 1951 (see

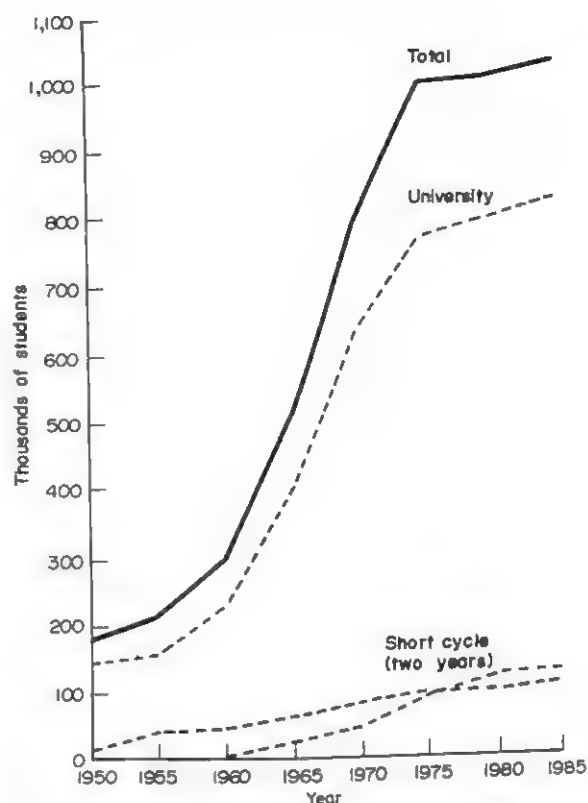


Figure 3
Enrollment in higher education 1950-85

Fig. 3). The most spectacular increase in enrollment took place between 1955 and 1970 (+ 585,000). Since the beginning of the 1970s, the growth rate has slowed down considerably (+ 2 percent per year) but the number of students is still increasing. In 1982, approximately 18 percent of each cohort entered higher education, slightly above the average for Western Europe. Most of these students (around 80 percent) still go to traditional universities.

The evolution in higher education differs between faculties. Of the traditional university disciplines, enrollments in law and economics remained more or less stable until 1960 but increased fourfold between

Table 1
Distribution of children by socioeconomic origin (%)

Socioeconomic origin	Short stream	Long stream	Active population
Farmers	5.8	4.7	7.4
Senior executives and professionals	3.2	17.7	11.9
Junior executives	9.2	17.5	11.7
White-collar workers	9.5	9.8	8.2
Industrial workers	44.4	27.3	44.3

Table 2

Distribution of university students according to socioeconomic origin in several fields of study 1979 (%)

Socioeconomic status of parents	Field of study					Proportion of each group in the adult population
	Law	Humanities	Medicine	University institutes of technology	All fields	
Business owners	9.5	9.5	10.0	11.0	9.9	7.8
Professionals and senior executives	29.5	26.4	45.0	15.5	31.1	7.0
Junior executives	15.5	17.0	15.0	17.0	16.5	13.0
White-collar workers	9.0	9.0	6.5	9.5	8.4	18.0
Blue-collar workers	12.0	13.5	7.0	24.5	12.2	37.5
Farmers	4.5	4.5	3.5	9.5	5.1	7.0

1961 and 1971 to stabilize at around 200,000 students (one-fifth of the total) in 1984. Enrollments in the humanities and social sciences doubled between 1951 and 1961, increased more than threefold in the 1960s, and then grew at a much lower rate (+25 percent between 1971 and 1984) to represent today 26 percent of the total. Sciences increased their intake fourfold between 1951 and 1965, remained almost stable in the late 1960s and early 1970s, and then resumed growth thereafter (+24 percent between 1976 and 1984; 13 percent of the total).

Enrollments in medicine and pharmacy increased quite sharply in the late 1960s but have stabilized since 1976. They represent today less than 17 percent of the total. Other prominent features are the slow growth of the "closed" elitist network of *grandes écoles*—composed mainly of engineering schools—and the appearance around 1965, and rapid growth since, of a series of "short" streams (2 or 3 years) which in 1982 had at least 200,000 students, half of them in the health and paramedical field (only considered part of higher education since the late 1970s). The dropout rate is high in the traditional university disciplines, especially after the first year (29 percent in 1976), and much lower in the preparatory classes to the *grandes écoles* and in the short streams (between 10 and 15 percent).

Although access to higher education has broadened, inequalities in the socioeconomic background of students are still very high, as shown in Table 2. These are much more pronounced in some fields than in others—the two extremes being medicine, where almost half the students come from professional and high-level executive families, and the institutes of technology, where the proportion of children of blue-collar workers is much higher than anywhere else.

3.2 Nonformal Education

It is impossible to give even a rough estimate of the number of persons involved in nonformal education. Programs vary in length from a few days to several

months and are organized by myriad groups and institutions. No general survey of them has been made. The number of people involved in the programs financed by the government or by compulsory contributions from employers, which developed in the 1970s, increased from 1,760,000 in 1972 to 3,270,000 in 1983. Participants are all working people. A little over 60 percent are manual workers, one-quarter are technicians, and about 15 percent are executives.

4. Administrative and Supervisory Structure and Operation

Since Napoleon's time, France has been a highly centralized country. The educational system, which was supervised by a "grand master" in Napoleon's time, came, during the first half of the nineteenth century, under the jurisdiction of a ministry. The minister was represented in each region (or academy) by a prefect (later by a rector).

Since the end of the 1800s, all teachers in state schools and universities have been civil servants. School programs are conceived at the ministry level and qualifications are national.

The present Ministry of Education controls formal education at all levels: preprimary, primary, lower-secondary, higher-secondary, and higher education. There are some exceptions. The Ministry of Agriculture controls and administers agricultural high schools (122,700 in 1984) and several higher schools of agronomy. The Ministry of the Armed Forces has a few high schools and officer schools. Several other ministries have schools of engineers or higher schools of administration under their jurisdiction. Vocational training is partly under the control of firms or of institutions created by firms.

As far as vocational training is concerned, it is necessary to distinguish between the training of young people who have not yet left school and the training of those who have already had some work experience. In

Table 3
National expenditure on formal education 1980

Economic agent	Expenditure (billions of FFr)	% of total
Ministry of Education and Ministry of Universities	97.7	55.2
Other ministries	24.8	14.0
Total central government	122.5	69.2
Local Communities (Departments and communes)	24.6	13.9
Total public sources	147.1	83.1
Households	22.2	12.6
Firms	7.7	4.4
Grand Total	171.0	100.0

the first case, vocational training is given primarily in schools but may also be organized in special centers, where schooling is not given by teachers who are civil servants, but is supervised by the Ministry of Education, and where two-thirds of the time is spent in small firms learning a craft.

The training of those who are already out of school takes many more different forms. Since July 1971, legislation has secured supervision of all programs financed through compulsory or public contributions. The supervisory organization is contractual and decentralized. Every program has to be approved on a yearly basis by a regional committee composed of representatives of workers, employers, and various administrative departments. Private firms have to participate in the financing of these programs by a contribution of at least 1.1 percent of their wage bill. They may themselves organize programs for their employees, contract with an approved training institution, or pay the money direct

to the treasury. Early in 1982, the government launched a program of "social induction and professional qualification" for adolescents between 16 and 18 which was later extended to all young people between 16 and 25. In 1984 these programs concerned 85,200 people, 37 percent of whom were training in schools and institutions belonging to the Ministry of Education.

5. Finance

Full data exist only from 1950 and only for the expenditures of the Ministry of Education. But, using special surveys, it is possible to give an overall evaluation of the total cost of education, before going into more detail.

Total expenditure for 1980 was 176.9 billion French francs, equal to 6.4 percent of the gross national product (GNP). This expenditure was shared between different economic agents as shown in Table 3. Public education is financed mainly by the central government; local communities, contrary to what is the practice in many developed countries, play a minor role; and households, on the whole, pay only 13 percent of the total.

Table 4 presents the evolution of the Ministry of Education budget from 1952 to 1985. Although a coherent time scale cannot be presented for the earlier period, it can safely be stated that shortly before the Second World War the percentage of the government budget allocated to the Ministry of Education was approximately the same as in 1952 but the percentage of GNP was lower.

After a period of roughly 50 years during which the proportion of the state budget spent on education changed little, the education budget has increased constantly between 1950 and 1980; the rapid increase of other budgets (unemployment compensation primarily) has led to a slight relative decline since then. In 1985,

Table 4
Evolution of the budget of the Ministry of Education 1952-85

Year	Total budget of Ministry of Education (millions of constant FFr 1984)	Education budget as % of state budget	Education budget as % of GNP
1952	15.9	7.4	1.33
1957	27.8	10.0	1.85
1960	39.1	12.0	2.30
1963	51.4	13.6	2.55
1965	69.1	16.3	3.08
1970	100.3	16.9	3.23
1975	117.9	18.1	3.22
1980	155.1	19.0	3.61
1982	169.3	17.4	3.87
1984	177.9	16.2	3.96
1985	178.5	16.0	3.85

Table 5
Evolution of government expenditures for higher education 1952–85

Year	Total higher education budget (millions FFr 1984)	Expenditure per student (FFr 1984)	Higher education budget as % of Ministry of Education budget
1952	1.24	8,740	7.8
1957	2.16	12,720	7.78
1960	4.67	23,140	11.96
1963	8.09	29,530	15.75
1965	10.53	30,270	15.25
1967	12.87	29,590	16.09
1969	13.49	26,390	17.38
1970	16.65	25,660	16.57
1975	16.58	20,760	14.09
1979	17.00	19,590	10.42
1980	16.82	19,270	10.84
1982	18.77	20,750	11.08
1984	19.87	20,840	11.17
1985	20.14	21,520	11.28

the French government spent more than 11 times what it spent in 1952, in real terms. In proportion of GNP, after a threefold increase, it has now stabilized.

There is nothing unusual about the allocation of the budget between the different levels of education except in regard to higher education. The peculiar evolution of higher education expenditure is summarized in Table 5. The increase in expenditure is spectacular: 16-fold in real terms in 33 years. There are two distinct phases in this evolution. Between the late 1950s and mid-1960s, the percentage of the education budget going to higher education doubled and the per student cost increased by a factor of 3.5 in real terms. Between 1965 and 1969, the per student cost decreased as enrollment increased very fast. In the second phase, after 1970, however, the percentage of the education budget allocated to higher education, which was already rather low for a developed country, went sharply down to the level of 1960, an almost unique occurrence, and the real per student cost decreased by one-third. This disastrous trend was stopped in 1981 but there is little hope of going back to the 1965 situation.

Finally, it should be noted that the part of the education budget allocated to preprimary education is a little above average and the part allocated to primary education is a little below average for a developed country, which makes secondary education the (relatively) privileged level of French education.

Although international comparisons in absolute terms are always ambiguous, it seems that per student costs are relatively low at all levels in France.

Several surveys allow us to know the cost of education for households in detail. If direct expenditures for schooling and sociocultural expenditures (noncompulsory) are distinguished, and if these are compared with ordinary day-to-day expenditures for the child, the result is the situation presented in Fig. 4.

The expenditure incurred for schooling is not very high and increases with age. There are differences among households, especially in sociocultural expenditures, which are higher in well-to-do families. But on average, putting a child through primary and secondary school does not cost more than tobacco for a heavy smoker. In secondary and higher education, various types of financial aid are available. Some are progressive, that is, given only to low-income families (scholarships), and some may be considered regressive (tax deductions). The result is that only very poor and very rich families receive substantial financial aid.

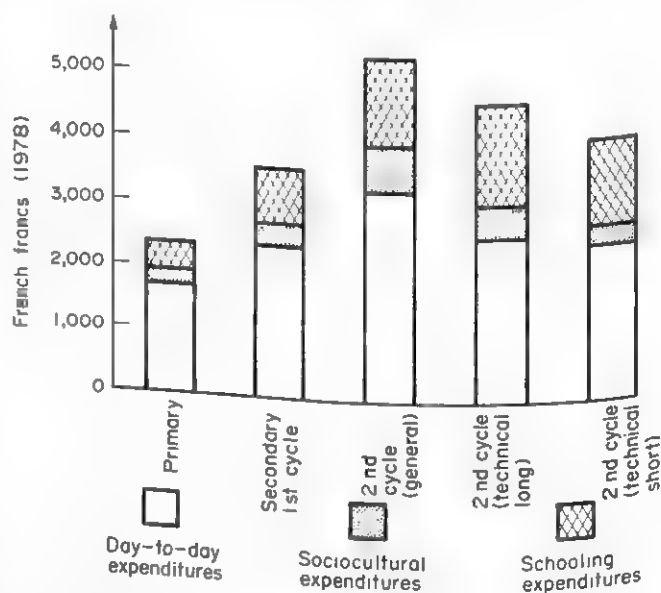


Figure 4
Annual cost of educating a child in primary and secondary education

Table 6
Evolution of the credits allotted to lifelong education 1978-83
(billions of FFr)

Source of financing	1978	1980	1983
State budget	6.8	7.0	12.6
Contribution of firms	8.7	11.4	16.1
Total	15.5	18.4	28.7

The amount of progressive types of aid has decreased since 1970. In 1980 only 11.5 percent of university students received scholarships against 14.3 percent in 1970 (but there has been a slight upward movement since then: in 1984 the percentage rose to 12.2). In secondary education this percentage varied between 16 and 37.5 percent according to the stream (two-thirds of what it was in 1976) and the average amount of the stipend for the school year was 1,250 French francs. Considering the respective percentage of the socio-economic groups represented and the economic rewards obtained by graduates, one could say redistribution through education in France is from the poor to the rich.

Institutionalized, lifelong education is financed from two main sources: compulsory contributions from employers equal to 1.1 percent of the wage bill; and public funds coming from the budget of the Ministry of Vocational Training. The sums allocated to these programs have increased rapidly since 1972, as shown in Table 6. It should be noted that many firms spend more than the compulsory 1.1 percent of the wage bill (1.8 percent on average in 1980) and that the total bill represents a significant proportion of the amount spent on formal education. Since 1982, expenditures have increased sharply, mainly as a result of the introduction of government-sponsored training programs for those aged 16 to 25 who have left school without qualifications.

6. Supplying of Personnel

In 1984, the total number of teachers in the French educational system was around 780,000. As can be seen in Table 7, roughly 8 percent were in preprimary

education, 29 percent in primary education, 48 percent in secondary education, and 5.5 percent in higher education, the rest holding nonteaching jobs.

Some 15 percent of teachers are in private schools. The percentage of women in teaching staffs varies from 98.0 in preprimary to 25.1 in higher education. The percentages are 73.8 in primary schools, 67.5 in the first cycle of secondary education (public), 53.3 in the second cycle of general education (public), and 36.6 in technical education (public).

When the "birth bulge" reached the primary schools in 1952, there were 250,000 teachers in the educational system. Their number has increased threefold in less than 30 years. The initial, acute shortage was progressively alleviated by increasing recruitment. At first, new teachers were mostly on an auxiliary basis. In the 1970s, when enrollment started decreasing, the number of auxiliaries was reduced and the student-teacher ratio lowered.

Between 1971 and 1984, the average class size was lowered from 40.4 to 29.0 and from 25.2 to 22.9 at the preprimary level, mainly because of the decrease in total enrollments during the second half of the period. At other levels the change was small and there has been a tendency toward an increase since 1982. At the first cycle of secondary education the average size of a division moved from 26.4 to 24.7; at the second cycle (short stream) from 24.0 to 24.7, at the second cycle (long stream), from 28.1 to 28.0, and in higher education the number of teachers increased 14-fold between 1951 and 1981 while the number of students increased only 7-fold. On the whole, these ratios are satisfactory and there was no general shortage of teachers in France in 1985.

The training of teachers varies according to level not only in length but in organization. Primary-school teachers, traditionally trained in special institutions (*Ecole Normales*) must now get a university degree. Since 1985, they get a four-year training after *baccalauréat*. The first two years at the university are spent getting a degree (DEUG) in one of the main fields and receiving some preprofessional training with the cooperation of the *Ecoles Normales*. Then they spend two more years in the latter with some participation of the universities to their professional training. They may choose to get a certification for teaching in the first cycle of secondary education by spending one more year in

Table 7
Number of teachers by level of education 1984

Number of teachers	Preprimary	Primary (including schools for handicapped)	Secondary			Higher ^a	
			1st cycle	2nd cycle (technical)	2nd cycle (general)	Full professors	Total
Public	73,002	197,637	168,140	52,146	79,227	11,425	44,156
Private	10,520	30,512	36,520	8,040	29,532		

^a Private universities have no permanent full-time teaching staff

training. Higher secondary-school teachers are recruited nationally through a competitive examination after at least four years of university studies.

The recent change in primary-school teachers training is the first concrete measure taken following severe criticisms of the old system and proposals made by a special commission (de Peretti 1982). Changes are also under consideration at the upper secondary and higher levels.

7. Curriculum Development and Teaching Methodology

As the French educational system is highly centralized, curriculum development is undertaken by national commissions in which members of the corps of general inspectors play a prominent role. The coverage is national and only slight variations are allowed at the local level. A body of inspectors exists to visit all classrooms at regular intervals to ensure that official instructions are respected.

The problem is different in higher education, where universities are autonomous but must conform to broad programs defined nationally in order to be allowed to confer "national" degrees. Some people feel that the autonomy of universities has introduced discrepancies in the value and content of the teaching. At the lower level, however, many feel that a little more independence should be granted to the schools.

8. Examinations, Promotion, and Certification

The system of examinations is fully controlled by the teachers. There is no certification until the end of the first cycle of secondary education, that is, after nine years of schooling. In primary schools, promotion is decided by the teacher alone, at the end of each year.

In secondary education, orientation (guidance) counselors help the students and participate in orientation commissions, which decide at the end of the second grade whether to let a student go to the third grade or to a special class, preparatory to apprenticeship. Schools seem to follow rather different policies in this respect which creates inequality of opportunity between students (Duru and Mingat 1985). After the fourth year, at the end of the first cycle, these commissions play a prominent role but the wishes of the families are taken very much into account (Mingat and Perrot 1982).

The *baccalauréat* is a diploma which not only certifies completion of secondary education but also, up to now, has ensured free access to universities except where *numerus clausus* has been introduced.

In higher education, admission is decided by juries. The high failure rate, especially in the first years, has often been criticized as wasteful but the imposition of an entrance examination has been resisted by student and teacher associations.

9. Educational Research

Educational research is fairly dispersed and too often compartmentalized along the lines of traditional disciplines like psychology, sociology, history, or economics; it has, however, developed considerably since 1960 (Mialaret 1979). Apart from research on the history of education, which has always received much attention in France, the two main fields which have been explored in recent years are those of the internal and external efficiency of the educational system.

In the study of internal efficiency, topics range from the process of apprenticeship (where interesting new results were found in the study of language acquisition) to problems of the management of schools and universities in a centralized system. But the main body of research concerns the study of the determinants of success in school and of orientation in the school system. Contacts between sociologists and economists have developed and have been shown to be profitable.

External efficiency studies have ranged from an analysis of the relationship between the school system and the system of production, and of the lack of harmony between the two, to computation of the rate of return of diplomas. But, at the start of the 1980s, they were beginning to turn towards an analysis of the transition between school and work, with special emphasis on those who leave school without any certification or professional training (Schwartz 1981).

10. Major Problems

In France, like elsewhere, education is considered to be in crisis. The rigidities caused by the centralized and bureaucratized nature of the formal educational system will make adaptation to new circumstances more difficult than in some other countries.

In primary education, the low status and low pay granted to teachers discourage the best male students from entering the field. As a result, the amount of women is now disproportionately high. The majority of primary-school teachers, well protected by their civil-servant status and by strong unions, are not motivated to introduce changes either in teaching methods or in curriculum. On the other hand, sweeping reforms are too often decided from Paris without proper reflection and this further discourages teachers.

In secondary education, the highly hierarchical character of the different streams is a cause of friction. Technical education has been neglected and despised for so long that youngsters almost never voluntarily go into that stream. As a consequence, the academic level is low and the results below average. General education is still very abstract and without relevance to the outside world. Its main asset—its capacity to teach students how to analyze the great works of literature—is disappearing because of the priority given to mathematics. Various measures (restreaming, later choice of stream, less em-

phasis on mathematics, and so on) are now being implemented but have not yet produced visible effects.

The main dangers in the coming years include producing a rising proportion of youngsters without training and/or certification, who will be unable to find decent jobs; and an inability to adapt to a changing world and especially to the communications revolution so that most useful knowledge will have to be obtained outside of school.

In higher education, the rift between the "open" and the "closed" (*numerus clausus*) system might widen, the first not resulting in any worthwhile certification and the second becoming more elitist. Universities should open themselves much more towards the outside world and reorganize their programs and methods in order to play the role they are assigned in lifelong education.

More is needed than further financial resources. What is required is autonomy at the local level and more imagination. There are signs that some universities are using the greater autonomy granted to them by the new law on higher education passed in 1984 to open new streams in cooperation with the productive sector but there is still a long way to go.

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French Guiana

P-A. N. Emoungu

French Guiana is an overseas department of the Republic of France. The Guianese system of education is, therefore, identical to that of metropolitan France. This article focuses on the transformations the French system of education may have undergone, or the particular characteristics it may have acquired, in a territory 7,081 kilometers (4,400 miles) from metropolitan France.

French Guiana is situated in the northeast of the South American continent and is bordered by Suriname to the west and Brazil to the east and south. It covers an area of 91,000 square kilometers (23,000 square miles) and is the largest of the French overseas departments.

French Guiana is seriously underpopulated with less than 70,000 inhabitants. The population density varies from 0.6 inhabitants per square kilometer in the hinterlands (which comprise about 90 percent of the territory) to 500 inhabitants per square kilometer in the coastal belt. The most salient aspect of colonial policy (prior to Guiana's becoming a French department) was attempts to increase and stabilize the population in order to develop the economy. During the colonial

period, two major but unsuccessful attempts were made to populate this territory with emigrants from France who are estimated to have numbered more than those who emigrated to Canada.

Today, there are five distinct population groups. The Amerindians are made up of six tribes. They live in the hinterlands where they coexist with "blacks"—descendants of African slaves—who live in tribal areas. The Creoles, the nontribalized and urbanized blacks, form the largest group. The fourth group is composed of Asians of Chinese or Hindu ancestry. The fifth group is composed of white French people (mostly born in France) who work predominantly in administration or in business.

Population growth has declined from a rate of 3.3 percent in 1954-61 to 1.9 percent in 1967-70, without a significant subsequent change. Underpopulation has seriously undermined the development of the economy, in particular, and all institutions, in general. There is a serious lack of an indigenous labor force (both quantitatively and qualitatively) to staff and manage the economy and institutions. In consequence, the economy

is very underdeveloped and limited in scope; and most institutions—including the educational system—function in reduced forms.

The economy is characterized as an economy of *consumption* rather than of *production*. It is totally dependent on the economy of France. Thus the primary and secondary sectors—generally productive elsewhere—are very underdeveloped. The tertiary (the only viable sector) is dominated by the administrative functions which claim more than 60 percent of the total economically active population, with about 90 percent of the total sectorial labor force. Since the economy is so underdeveloped, the number of graduates of the system of education at all levels is greater than the absorptive capacity of the economy, and the surplus is either unemployed or migrates to France or to countries neighboring French Guiana. This represents a tremendous inefficiency in the system of education, which contributes to the chronic underpopulation through migration. Thus, the demographic-economic-educational vicious circle continues to operate so that the three sectors never approach their optimal levels of development.

For three centuries, the territory was ruled as a colony by means of special decrees. The Law of March 19, 1946, made it a French department, which meant total assimilation to France. For example, all the laws of France are in force in French Guiana. However, it took almost a quarter of a century, until 1969, to achieve total administrative assimilation. Sociocultural assimilation is to be achieved by means of an educational system which is free and compulsory for 10 years from the age of 6 to 16. Through free and guaranteed primary and secondary education, all Guianese are to become "truly" French by acquiring the patterns of thought, action, and cultural capital necessary for them to function as all French people do in modern French society. Both public and private schools in the territory provide this kind of education.

1. General Structure and Size of the Education Effort

1.1 Formal Education System

The structure of the formal educational system is shown in Fig. 1. Both public and private schools (run mostly by religious organizations) dispense formal education. Because of the small population, the educational system has been limited in size and scope, especially before departmentalization in the late 1940s. Both the primary and secondary levels grew consistently (albeit at low rates) from 1960 onward after experiencing a small decline in 1955–60 (see Fig. 2).

Except in the hinterlands, the enrollment distribution at these two levels is almost the same as in metropolitan France, with 100 percent of the respective age cohorts enrolled in the various grades. There are, however, signs of an educational lag among Guianese pupils. In 1978, proportions of repeaters at each grade for the first four grades were practically double those in metro-

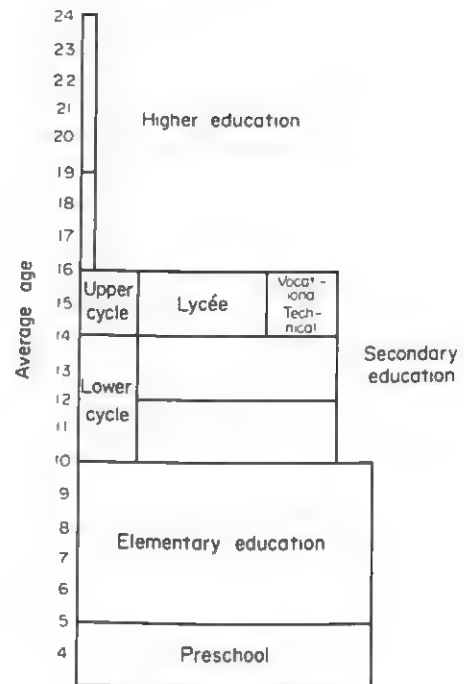


Figure 1
Structure of the educational system

politan France. Moreover, there were more overaged pupils in the final grades of the secondary level.

The provision of education for the Amerindians and blacks of the hinterlands remains problematic since the

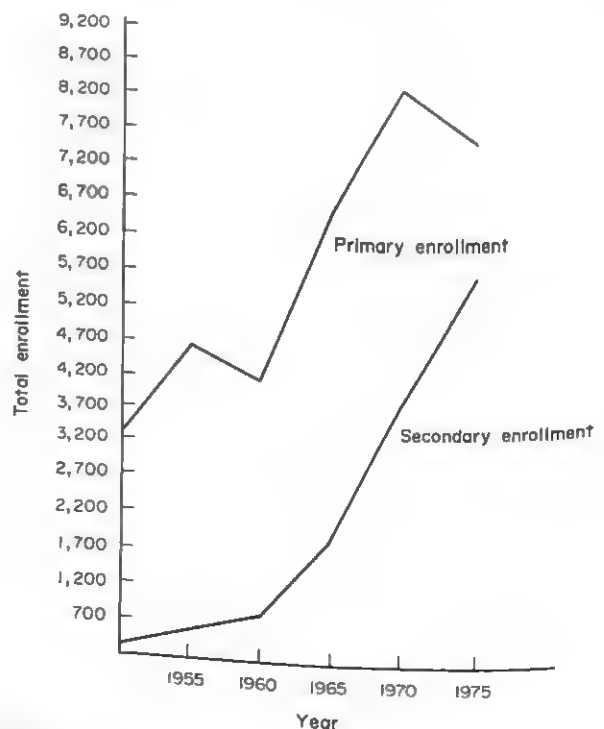


Figure 2
Growth of primary and secondary enrollment

roads of this very underdeveloped economy do not provide adequate access to the populations. It is estimated that only about 30 percent of the elementary-education age cohort in these groups is schooled; and special efforts are made to adapt formal education to their sociocultural environment.

For a long time, there was only one secondary-education institution, previously known as the College of Cayenne and which became the *Lycée Félix-Eboué* in 1944. Two additional lycées were established in 1971 and 1978 respectively.

There are two important examinations at the secondary level. The first, the *brevet de collège*, is not compulsory and is administered at the end of the first lower cycle of four years. The second, the *baccalauréat*, is compulsory and given at the end of the three-year upper cycle in the lycées; successful performance gains entry to university. The Guianese performance is still on average below the national norm but is consistently coming close to it.

The education pyramid is virtually truncated at the end of the secondary level since higher education is very limited in size and scope. The majority of secondary-school graduates who pursue higher education enter either the *Centre Universitaire Antilles-Guyane* (Antilles-Guiana University Center) or universities in France. The *Centre Universitaire Antilles-Guyane* primarily serves students from French Guiana, Guadeloupe, and Martinique. The university consists of five education and research units; four of these are based on Pointe-à-Pitre in Guadeloupe and the fifth in Port-de-France, Martinique. Only the law institute, *Institut Henri Vizios de Cayenne*, is located in French Guiana and therefore higher education within the country is limited to law, and some courses in business and commerce. Training in these areas extends to early post-bachelor's degree specialization. Most training provided at the postsecondary level is limited to obtaining advanced professional certificates below the standard of a university degree. The certificates are awarded in education (teacher training) and humanities and for various kinds of technical or terminal vocational training. Outside these programs, students must pursue their studies abroad. The state provides generous financial assistance for qualified candidates to go to France.

1.2 Nonformal Education

Correspondence courses in law are offered to employed, qualified candidates. These courses correspond to two years of university training. Since 1973 refresher courses (*cours de perfectionnement*) have been offered to employers who request them for their employees. There is some paranursing, on-the-job training in public health centers to help medical professionals. The Agriculture Service provides training for adults, mostly in home economics. The Ministry of Labor, in collaboration with the Guianese Association for Professional Education, trains adults as typists, accountant aides, electricians, plumbers, and the like. In addition, the army has about

12 workshops in which many Guianese are trained in various technical capacities for a period of six to nine months.

2. Administration and Finance

Administratively, the French system of education is divided into educational academies, and each academy is administered by a rector with a deputy inspector. Until 1973, Guianese education was under the rectorship of the Academy of Bordeaux in France; it was then transferred to that of the French West Indies in Port-de-France, Martinique. The deputy inspector is the highest educational authority in residence.

The state educational allocations make up about one-third of all expenditures allotted to the state by central government (Paris). They are never enough to meet local needs and contributions raised locally by the Department of Guiana are insufficient to cover the demands.

3. Teacher Supply

Primary and secondary teachers are trained and recruited locally. Until 1975, elementary teachers were trained in Martinique. Since then a teacher-training institution opened in French Guiana. The level of training is, however, very low since much of it is limited to postprimary teacher-training programs. The shortage of qualified secondary-education teachers is a serious problem, as indicated by the high proportion of teachers' aides, ranging from 30 percent of the teaching body in the general academic programs of the lycées to 50 and 75 percent respectively in lower cycles of the secondary level and the technical programs.

4. Major Problems

The French system of education in French Guiana has neither undergone major and permanent transformations nor acquired outstanding and lasting idiosyncracies. Structurally, the system is somewhat limited in size and scope, especially at the higher education level. This may be due to the small population, poor economy, and lack of adequate local human resources to staff this level of education and, correlatively, a lack of a demand for such resources in a limited economy. This structural limitation will continue so long as the country remains underpopulated and its economy underdeveloped. Qualitatively, educational performance among Guianese is behind that of metropolitan French, though they are catching up. The lag may be due to the relatively poor quality of educational personnel and may also be due to the lack of "total" sociocultural assimilation, which is behind administrative assimilation. The cultural and educational capital of Guianese school-age children is not the same as that of their counterparts in

metropolitan France—hence the average differential progression through the educational system.

There are signs, however, that political factors may be militating against total sociocultural assimilation, that is, the question whether Guiana will always remain French. Advocates of Guianese independence from France have serious misgivings about the present system of education. To the extent that this independence movement becomes sufficiently serious for an independent Guiana to be likely, it will provide an impetus for a significant transformation of Guianese education to adapt it to the new realities for a new Guiana.

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French Pacific Islands

T. N. Postlethwaite and R. M. Thomas

Island territories in the Pacific Ocean governed by France include the Society Islands in the southeast Pacific and the single large island, New Caledonia, in the southwest. The two territories are considered together here because of the similarities in their school systems.

The Society Islands with their 130,000 inhabitants form the largest group of islands of French Polynesia. They comprise two groups of volcanic islands and coral atolls—the Leeward Islands which include Raiatea, Huahine, Tahaa, and Bora Bora, and the Windward Islands which include Tahiti, Moorea, and Mahataa. The population is increasingly concentrated on the island of Tahiti.

New Caledonia with 140,000 inhabitants is a single island between Australia and Fiji whose indigenous people are of Melanesian stock.

The Society Islands came under French rule in 1847 and New Caledonia in 1853. For more than a century both held the colonial status of protectorates of France. Then, in 1956, they assumed a measure of autonomy as overseas territories (*Territoires Outre Mer*). A further step toward self-rule was achieved for New Caledonia in 1976 and for the Society Islands in 1977, when they were accorded the status of overseas domains (*Domaines Outre Mer*) with a degree of financial and administrative autonomy. Legal responsibility is divided between the territories and the French state. In education, elementary and preschool programs are the obligation of the territories and secondary and higher education the responsibility of France.

1. Educational Background

Western education was introduced to the islands by missionaries in the mid-nineteenth century. In 1843, the governor of the French establishments in Oceania issued a statute nominating Sister Mary de la Paix as headmistress of the girls' school in Tahiti. In 1860, the governor of New Caledonia opened the first school on the islands, with Brother Germanique as headmaster. From such beginnings the islands' school systems gradually evolved, offering both general and vocational education. Nearly all schools were operated by religious orders—Catholic sisters opening schools for girls and Catholic brothers and Protestant pastors opening schools for boys.

Although private bodies ran the educational institutions, they were not free to carry on programs entirely as they wished. Instead, they were required to apply for permission to start a school by submitting a dossier to the minister of the navy and colonies. In this document, the applicants were to propose the timetable they intended to follow and to describe the curriculum offerings and rules to be followed in operating the institution. The applicants were also required to provide classes from 8 to 10 a.m. each weekday except Saturday, to submit periodic reports to the government, and to permit visits by education officials. Schooling was stipulated to be for children from 4 to 10 years of age, but in practice the major enrollment was of pupils aged 8 to 12.

In the earliest days, all teachers were missionaries.

but in the 1880s the laicization of schools began, with teachers recruited from France and the French language as the medium of instruction. During this same period secondary schooling was introduced. In 1897, primary education became free and compulsory for all boys and girls from age 6 to 13.

2. Structure and Size of Present-day Schooling

The basic structure of schools in the Society Islands and New Caledonia today is the same as that for metropolitan France. The five-year primary school (age 6 through 10) is followed by a seven-year secondary school. However, schooling is compulsory only to age 14 rather than to age 16 as it is in France.

Upon completing the five-year primary-school programs, pupils take the primary-school leaving-certificate examination (CEPE), then enroll in either the short or the long secondary-school course. The short course lasts four years and ends with the *brevet d'étude du premier cycle* (BEPC) examination. The long course continues for seven years and culminates in the *baccalauréat* or secondary-school diploma. However, many pupils upon completing primary school enter vocational programs which they attend for two years to earn a *brevet d'études professionnelles* (BEP), or they enroll in a 3-year program to earn a *certificat d'aptitude professionnelle* (CAP). These two practical diplomas are useful for immediately finding employment in the job market.

In both of the French Pacific territories, private and public schools continue to operate at both primary and secondary levels. In New Caledonia, about 40 percent of pupils enroll in private schools, while in the Society Islands around 25 percent at the primary level and 50 percent at the secondary level are in private institutions. Enrollments for 1979 are given in Tables 1 and 2.

In 1983, children in New Caledonian preschool programs totaled 8,675. The enrollment in primary schools was 22,934, in secondary schools 16,971, and in tertiary institutions 715. At the secondary level, 70 percent of the students were in general academic schools and 30

Table 2

School enrollment in New Caledonia, 1979

Type of School	Public	Private	Total
Preprimary	4,890	2,546	7,436
Primary	16,201	8,785	24,986
Lower 4-year secondary	4,101	3,241	7,342
Upper 3-year secondary	1,406	688	2,094
Technical secondary	1,188	787	1,975
Total	27,786	16,047	43,833

percent in vocational programs. The proportion of male to female pupils was 50/50 at the preschool level, 51/49 in primary schools, 50/50 in secondary schools, and 73/27 at the tertiary level. The numbers of teachers were 344 in preschools, 1,226 in primary schools, and 1,289 in secondary schools. The teacher/pupil ratio in primary schools was 1:19 (UNESCO 1984).

In 1982, the preschool enrollment in the entire cluster of French Polynesian islands of the Eastern Pacific was 10,485. Pupils in primary schools totaled 29,384, in secondary schools 15,492, and in post secondary schools 68. At the secondary level 78 percent of the enrollment was in general academic programs and 22 percent in vocational courses. The proportion of male to female students was 51/49 in preschools, 52/48 in primary schools, 50/50 in secondary schools, and 51/49 in post secondary studies. There were 406 preschool teachers, 1,361 primary teachers, and 986 secondary instructors. The primary-school teacher/pupil ratio was 1:22 (UNESCO 1984).

An enrollment problem that officials have been seeking to solve is the discrepancy in school-attendance ratios between urban and rural areas of New Caledonia and between the urbanized island of Tahiti and the outer islands in the Society Islands group. During the later 1970s, there was an increase in the number of schools built in rural and outer-island regions in order to furnish educational opportunities in sparsely settled areas.

If a child progresses through the school system at a regular rate without repeating any grades, then the *brevet d'études du premier cycle* examination is taken after nine years and the *baccalauréat* after 12 years. However, this regular progression is rarely the case, for most pupils repeat one or more grades.

3. Administration

As in France, the major administrative district for education in the Pacific territories is an *académie*. Each of the two Pacific territories is thus designated an academy, headed by a vice rector as the chief official. As noted earlier, primary education in the Pacific islands is under

Table 1
School enrollment in the Society Islands, 1979

Type of school	Public	Private	Total
Preprimary	6,039	1,991	8,030
Primary	19,575	5,756	25,331
Lower 4-year secondary	5,053	2,793	7,846
Upper 3-year secondary	588	449	1,037
2-year technical	1,420	—	1,420
3-year technical	417	198	615
Total	33,092	11,187	44,279

the territorial government and secondary education is under the French. This division of responsibilities exists in the Society Islands, with primary administration differentiated from secondary. However, in New Caledonia, the high commissioner in general charge of the territory for France serves also as the vice rector for education, so that the high commissioner not only heads the administration of secondary education but, along with the governing council of the territory, oversees primary education as well.

Gradually, other responsibilities for education that have been carried by the French government are being shifted to the territories. For example, since 1979 in New Caledonia, the initiative for school-building programs has been transferred from France to the local high commissioner's office. Furthermore, technology education centers are being coordinated by a bureau of educational studies.

4. Teaching Personnel

Each of the two Pacific territories operates a teacher-training college (*école normale*) where students who have passed their *baccalauréat* examination can pursue a two-year course qualifying them to teach in primary schools. However, at present, some of the existing teaching personnel still hold only a certificate of elementary primary studies (CEPE).

General secondary-school and vocational-education teachers are trained in France and are appointed in the territories in the same way as they would be appointed to teaching posts in France. Such appointees are sent from France for a period of three years. If they choose to stay in island positions after this first tour of duty, they can be appointed for a second period of three years, but no longer than that, since authorities believe

they need to keep teachers up to date in their field through the inservice education available in France.

This system of appointments, however, has displayed two shortcomings. First, high academic qualifications are not synonymous with efficient teaching skills, so that excellence in instructional ability may not be ensured by limiting a teacher's assignment in the islands to six years in order to provide additional academic study back in France. Second, there is greater competition among teachers to hold posts in the urban areas, with the result that outlying schools often have poorer teachers.

5. Major Problems

The most serious problems to be attacked in the 1980s and 1990s are those of achieving greater balance or equity in school attendance and educational opportunity. At present, a higher proportion of children of European settlers attend school, reach higher levels of the school system, and achieve at a higher level than do children of the indigenous populations. Furthermore, a greater proportion of boys than girls attend school. Likewise, better schooling facilities exist in urban centers than in rural and outlying island areas, and the percentage of children attending school is greater in urban communities. Therefore, the principal challenge for educational planners in the coming decades is to promote more equity in educational opportunities for the indigenous peoples, for girls, and for rural residents.

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Gabon

A. Ivanga and I. M. Maimbolwa-Sinyangwe

The Republic of Gabon in Equatorial West Africa shares borders with three countries—the Congo to the south and Cameroon and Equatorial Guinea to the north. The Atlantic Ocean forms Gabon's western border. The nation covers 272,000 square kilometers (105,000 square miles) and has a hot climate with an average rainfall of 635 centimeters. Most of the land is covered by dense equatorial forests.

The population in 1980 was estimated at 1,232,000 (including 122,000 Gabonese abroad), making the country one of the least populated African nations. The inhabitants are largely from around 40 ethnic groups who speak languages belonging to the Bantu language family. However, the official language in which government and education are conducted is French.

Gabon obtained its independent political status in

1960 along with three other nations (Congo, the Central African Republic, and Chad) which, between 1910 and 1959, had formed the colonial territory of French Equatorial Africa.

Since 1960, the nation has functioned under a presidential form of government, with the president elected for a seven-year term. The prime minister, deputy prime minister, and cabinet members are all appointed by the president. In 1968, the president declared the nation to be a one-party state under the Gabonese Democratic Party (PDG). For administrative purposes, the country is divided into nine provinces, each headed by a governor.

Over half of the nation's labor force is engaged in subsistence agriculture, with the main crops being palm oil, coffee, cocoa, and bananas. The country's main sources of income are petroleum, manganese, uranium,

coffee, and cocoa. Gabon has one of the world's richest deposits of manganese, which helps make it one of the richest countries in sub-Saharan Africa. The population includes many European settlers, most of them from France.

1. Structure of the Educational System

Roman Catholic missionaries were among the first Christian groups to enter Gabon and establish schools. And, today, their presence is still important, since in the 1980s education is the joint responsibility of the government and missionaries.

Schooling is free of cost to students from the primary grades through the university. The structure of the Gabonese educational system is shown in Fig. 1. Primary education is compulsory, with most students entering at age 6, though some start later. In the six-year primary school, the first year is called preparatory 1 (CP1), followed by preparatory 2 (CP2). The third and fourth years are designated elementary courses 1 and 2 (CE1 and CE2). The fifth and sixth are transition courses 1 and 2.

At the close of primary education, students take examinations. First is a secondary-school entrance test. Second is a certificate-of-aptitude examination, which qualifies the successful pupil for a certificate that can be used when seeking employment. Although in the past pupils could seek employment at the end of primary school, they are now required to attend school until they are 16 years old. In 1980, 87 percent of children of school age did attend school.

Secondary education is divided into two parts, representing junior and senior levels of four and two years respectively. Students enter one of two streams, either a curriculum of general academic studies or one of technical education which usually leads directly to employment.

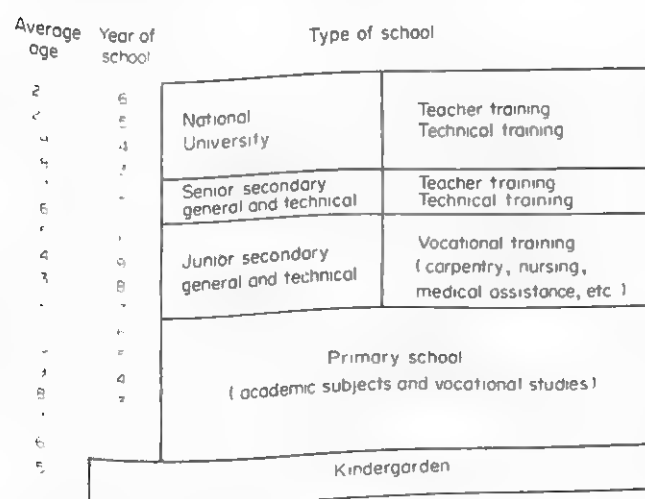


Figure 1
Structure of the educational system

Table 1
Schools, teachers, and students, 1982-83^a

School type	No. of schools (1982)	No. of teachers (1982)	No. of students (1983)
Primary	886	3,526	148,520
Secondary	64	1,222	22,148
Technical	11	368	5,864
University	1	295	2,350

a Source: Ministère de l'Éducation National

Students who enter the two-year senior-secondary school, which prepares them for the university, enroll in tracks representing areas of specialization—literature, economics, mathematics, natural sciences, or industrial or technical studies. Those not entering senior-secondary school may attend a college to train as primary-school teachers, nurses, or technicians. Secondary-school graduates who qualify for university studies may either attend the National University (founded in 1970) in Libreville or study abroad, typically in France.

The Gabonese educational system, as is the case in many Third World countries, was adapted from the system of its former colonizer, France. Terminal examinations at the end of the primary, junior-secondary, and senior-secondary levels have proven difficult for many students, so that large numbers fail to qualify for the next level of schooling. The figures shown in Table 1 for 1978 on numbers of schools, pupils, and teachers illustrate the rapid drop of enrollment between school levels. The success of efforts to increase secondary-school opportunities are reflected in the growth of enrollment from 21,614 students in 1978 to 30,000 by 1980.

2. Personnel

Both government and private schools come under government control. The government is responsible for training and recruiting teachers, for setting teachers' salaries, and for determining the curriculum. Although there are 13 teacher-training colleges in the country, and teachers are trained at degree level in the university, the nation must still recruit large numbers of teachers from abroad. Most of the foreign teachers come from France or from other French-speaking countries.

3. Major Problems

One of the most serious needs in Gabon is to increase the number of schools in rural areas. At present, pupils often have to travel 15 kilometers to reach school, so that those who do not live close to a school will typically start their education at a later age. Some have reached age 13 by the time they complete primary school and thus miss the opportunity for secondary education.

A second serious problem is that of providing properly trained personnel for the economic sector. Despite the fact that Gabon has an adult population that is 65 percent literate (1983 estimate), the need for technically trained personnel to staff the enterprises involved in extracting and processing minerals exceeds the supply capacity of the educational system. Part of the problem lies in the status accorded to academic training compared with technical or manual training. There are far more students enrolled in general academic courses than in technical studies at the secondary-school level, because low prestige has been associated with manual or skilled work in the past. Furthermore, there is a higher proportion of females than males enrolled in schools, with the females seldom desiring to prepare for the manual occupations traditionally staffed by males. At the university level, humanities courses continue to be more popular than those in the sciences, even though the nation has a far greater need for personnel with a scientific background. For example, in 1975, the university enrolled 339 students in the humanities and only 55 in the natural sciences.

In contrast to many other developing countries, the difficulty in providing technically trained personnel is not one of funding educational institutions (in 1983 expenditure on primary and secondary education was 32,800 million francs CFA), but rather a problem of directing a sufficient number of apt students into the areas most needed in the nation's economic development program.

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Gambia

P. Sonko-Godwin

Until early 1982, the Republic of Gambia was a separate nation, a former colony of the United Kingdom situated on the west coast of Africa and granted independence in 1965. Then, in February 1982, Gambia and the Republic of Senegal formed the Confederation of Senegambia, with coordinated policies in defence and foreign and economic affairs. The respective educational systems however are dealt with separately in this Encyclopedia.

Geographically, Gambia is the smallest state in Africa, comprising 11,295 square kilometers (4,361 square miles) in the form of a narrow corridor of land bordering the Gambia River, an area with a population of less than 590,000 by the early 1980s. The river is one of the best waterways in Africa, navigable by ocean-going vessels for 240 kilometers and for small boats and schooners for an additional 226 kilometers. The city of Banjul, the capital of Gambia located on an island at the mouth of the river, has a population of about 40,000.

Although Gambia's population hardly exceeds half a million, the citizenry is composed of a variety of ethnic groups, the major ones being the Mandinka, Fula or Fulani, Wolof, and Jola. A variety of minor African groups—such as the Mankang, Manjak, and Serers—are also represented. The population is 85 percent Moslem, with the remaining 15 percent following Christian and indigenous African religions. Despite the country's ethnic and religious diversity, no intergroup conflicts of any consequence have occurred, probably because of the long tradition of intermingling of groups.

The economy has depended almost entirely on agriculture, with groundnuts representing 90 percent of the country's exports and the remainder made up mainly of fish, hides, and palm kernels. Although rice, millet, sorghum, and cassava are produced for local consumption, the people's staple food, rice, must be imported in large quantities. The economy's dependence on agriculture has made it vulnerable to both the weather and world food prices. In the 1970s, erratic rainfall, coupled with falling prices, forced the government to seek economic aid from abroad. But, even during times of economic difficulties, the government's commitment to developing a sound educational system has motivated the investment of a large portion of the national budget in education.

1. Educational Background

During British colonial times, formal education was of two general types, one variety offered in the Moslem, Koranic schools, which taught Arabic language and Islamic doctrine, and the other, Western schooling furnished by Christian missionaries. For most of the colonial era, Western schooling remained a virtual monopoly of missionary groups, with few Gambians prepared for administrative posts or as teachers above the primary level. Prior to independence in 1965, there were 90 primary schools in the cities of Banjul and Kombo and 37 in the rural areas. Three of the nation's

four secondary schools were operated by missionaries and the remaining one by the government. The only postsecondary school was Yundum College, which was responsible for training primary-school teachers (Gailey 1964 p. 180).

The Moslems first resisted sending their children to Western-type schools, since such institutions were originally associated with Christian missions. However, eventually, the Moslems began to open their own schools in which secular subject matter in a Western tradition was taught.

2. Structure of the Educational System

Education in Gambia since independence has not been compulsory. The slogan *Tesito*, meaning self-help, was adopted by the government in the 1970s, indicating an awareness of its limited ability to expand education and, at the same time, stimulating the people to display their own initiative in supporting schools. The populace, believing that Western-type schooling would lead to better job opportunities for their children, responded to the government's appeal by erecting temporary classrooms, making furniture, repairing roads, and performing other services that might enable their children to attend school. Subsequently, the government, with the help of such outside bodies as UNESCO and the United States Agency for International Development, funded the building of permanent classrooms in pilot schools. *Tesito* was further enhanced in 1979 by Action Aid, a charity organization headquartered in London. By 1985, this body had assisted communities in the rural area to establish as many as 37 schools and gives additional assistance to 45 government schools.

Despite efforts during the 1970s to increase school enrollment, by 1984 only 20.1 percent of the population could read or write English, which has been the official language of government and the medium of instruction in the schools. However, there is a higher percentage of people literate in Arabic, which was taught in both of Koranic and public schools. A larger proportion of males (29.6 percent) than females (11.4 percent) were literate in English by 1984, an imbalance caused by the fact that parents in rural regions still consider the education of girls a waste of time. However, official government policy has been to offer both sexes equal educational opportunities and to enroll boys and girls together in coeducational schools.

The schooling ladder in Gambia ranges from about 44 private preschools, dispersed unevenly throughout the country, for children age 3 to 6 or 7 at the bottom of the structure to a series of professional colleges at the top. In the 1970s preschools were found only in Banjul. However, increased awareness of the importance of education has led to the opening of more preschools in Kombo and the rest of the provinces. Traditionally, children entered the lowest primary grade at age 6, but the entry age was raised to 8 in 1976 in the

hope that this would unify the school-entrance age in the urban areas with that of the outlying provinces, where children often started school at much later ages. In 1978, education was made free of charge for all children in government and government-assisted primary schools. Enrollment in the nation's 189 schools by 1985 totaled 66,285 pupils and 2,635 teachers (Gambia 1985). There were 4,400 pupils in Action Aid-assisted schools.

Above the primary level, pupils who have scored high on the common entrance examination can enter a five-year secondary cycle leading to an examination for the ordinary-(O')level General Certificate of Education (GCE). Two of the country's eight high schools (St. Augustine's and Gambia High School) also offer a two-year course in two or three subjects for the Advanced-(A')level GCE examination. There were about 9,000 students in the country's eight general secondary schools in 1985 (Gambia 1985).

In parallel to the academic secondary track are 16 secondary technical schools, which are public or government assisted. Students attending the four-year technical schools have usually failed to gain entrance to the academic high schools. Enrollment in secondary technical schools was 10,105 in 1985; of these only 3,120 were female.

At the top of the schooling ladder are the following postsecondary institutions: the Gambia College runs the Schools of Agriculture, Education, Nursing and Midwifery, and Public Health. The School of Education, located near Brikama, offers a three-year certificated course for primary-school teachers. Specialization is in education, agriculture, home economics, and other fields. The College is planning to offer a Higher Teacher's Certificate in various courses. Tourism is Gambia's second most important revenue earner. The Gambia Hotel School provides the personnel necessary for the continued existence of this department. The Anglican Vocational Training Centre, the National Vocational Training Centre, and the Presentation Girls Vocational School offer courses in subjects such as carpentry, masonry, sewing, typing, and so on. The Gambia Technical Training Institute offers advance courses in the technical, clerical, and mechanical fields. The school for Community Health Nurses and the Community and Rural Development Institute train students to meet the needs of Gambia's rural community. Finally, the Management Development Institute engages in inservice and upgrading courses for middle-level civil servants and employees of parastatal organizations in the field of management, administration, accountancy, and business methods.

Gambia has no university, as it has been recognized that attempting to erect a university would be uneconomical in such a small nation. Therefore, Gambian youth travel to other African countries and to Europe and the United States for advanced education, supported by grants from both the Gambian government and various foreign agencies.

3. Examinations

At each step in the educational system, examinations play a crucial role in determining both whether pupils will advance to a higher level of schooling and which track they will enter for such schooling. At the close of the six-year primary cycle, pupils sit for the Common Entrance Examination, a competitive test set up by the West African Examination Council (WAEC) that is composed of representatives of the four former United Kingdom colonies on the west coast of Africa (Gambia, Ghana, Sierra Leone, and Nigeria) together with Liberia. Pupils scoring high enough on the test can enroll in one of the nation's eight academic high schools, one of which is a public institution and the other seven being private schools subsidized by the government and therefore subject to regulation by the Ministry of Education.

In 1985 out of 9,872 candidates who sat the examination, only 917 (9.3 percent) entered high school, while 2,572 (26 percent) qualified for secondary technical and vocational schools. The remaining students repeated or went out of the school system. After a four-year period students may sit the Secondary Four Examination, a local test administered nationwide, supervised by WAEC office in the Gambia. Successful candidates qualify either to enter a postsecondary institution or one of the academic senior-secondary schools at form 3 or form 4. The GCE O' level and A' level examinations at the close of the two stages of the academic high school are, like the tests at the close of the primary school, set by the West African Examination Council.

This examination system has exerted a strong influence on the instructional program at all school levels, since the schools' curricula in most cases are geared toward the examinations.

4. Administration and Finance

A cabinet minister heads the Ministry of Education, Youth, Sports and Culture, which is responsible for the development of education in Gambia. The minister is assisted by a permanent secretary and a parliamentary secretary.

The minister coordinates with the directors of education, youth sports and culture, nonformal education, curriculum and book production and material resources unit. These directors are answerable both to the minister and the Public Service Commission, a government body responsible for the recruitment of government employees. The Director of Education heads the Department of Education, which is a branch of the ministry and is responsible for the administration, supervision, and inspection of educational institutions. Two assistant directors supervise education officers stationed throughout the nation, provide liaison between the schools and the department, and implement regulations applying to teachers and students.

Funds to support education increased significantly

over the years. For example, the government's expenditure on education has increased from D2,415,000 (Dalasis) in 1970 to D22,362,260 in 1985 (UNESCO 1984, Gambia 1985). Continuing financial assistance in the form of school buildings, equipment, and scholarships has been provided by foreign agencies.

5. Educational Personnel

Gambia has faced an acute shortage of teachers at all levels of the schooling structure. The rapid expansion of primary schools made it incumbent on educational authorities to employ graduates of junior- and senior-high schools as teachers. At times, even dropouts and those who failed the external examinations have been placed in teaching posts. For example, 73 percent of primary-school teachers were unqualified in 1984. To rectify the resulting shortcomings in teachers' skills, the government provides inservice classes and three-year upgrading courses leading to a Teacher Certificate. Unqualified teachers are also encouraged to follow the three-year teacher-training course at Gambia College. The increased numbers of qualified graduates of the college in recent years has served to strengthen the quality of the primary-school teaching corps.

Gambians trained abroad in teacher-education colleges and universities are recruited as instructors for secondary and postsecondary institutions. However, because the number of such recruits has always fallen short of the teaching posts to be filled, the government has continued to import foreign teachers from neighboring African countries, the United Kingdom, Pakistan, and the Peace Corps of the United States. This practice, however, has been expensive for the Gambian government, because the imported teachers must be paid salaries competitive with the salaries they would receive in their home countries (except for the Peace Corps volunteers who are paid by the United States government).

6. Future Prospects

The effect that Gambia's merger with Senegal in 1982, to form the new nation of Senegambia, will have on the educational systems of the two societies is as yet (1984) indeterminate, particularly since the two have evolved from different colonial traditions—Gambia from British colonialism and Senegal from a French-colonial background. If the experience of similar African nations is a valid guide, then Senegambians can expect to face many years of negotiations before a unified educational structure can be fashioned from the two schooling patterns. Perhaps the most important issue to be settled will be that of the instructional language to be used in schools—French, English, or some combination of African dialects. A second issue will be the unification of the educational administrative system. A third will be that of providing equal educational opportunities in both rural and urban settings. Underlying all of these

issues will be that of adequately financing education so that the ideal of universal schooling and the production of skilled personnel for the economic structure can be achieved.

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German Democratic Republic

W. Kienitz

The German Democratic Republic (GDR) is now building mature socialism. Its present society and also its educational system began to develop after the destruction of Nazism in 1945. In a revolutionary process, the country underwent profound changes, which were at first antifascist and democratic and later socialist in nature. Industry is now nationally owned; and agriculture, most of which was until 1946 in the hands of big landowners, is largely owned by production cooperatives, although there is also a nationally owned element. The economy has been developing without any crises or setbacks after some initial difficulties and disproportions during the postwar years; and socialist democracy has been unfolding, with working and living conditions improving all the time. One of the results is that people in the country now enjoy all the benefits of a rich cultural life, and their educational standards have risen considerably. This has created increasingly favourable conditions for the all-round development of every individual, both in personality and as a socialist citizen.

1. Background

The country's population is 16,800,000 (155 per square kilometre), with almost three-quarters of the population living in towns. Its distribution over the country is uneven, and so is that of industry.

Although one of the world's top 10 industrial nations, the German Democratic Republic is rather poor in raw materials. It develops its economy in accordance with five-year plans, which are not only concerned with the economy as such, but also with all the material

and personnel requirements of culture, science, and education. National income during the five-year-plan period 1976-80 was up 25 percent on that of 1971-75. During the 1981-85 plan the increase was slightly bigger.

There are five political parties. The leading party is the Socialist Unity Party of Germany (SED), a Marxist-Leninist party of the working class, which has a membership of 2.2 million. Very important in the life of the country are also the many public organizations and committees, especially the trade unions. The trade unions and the Free German Youth (FDJ), the national youth organization, to which the Young Pioneers, an organization of under-14-year-olds, is affiliated, exercise considerable direct influence on education, in particular, further education. Approximately 30,000 of the 200,000 deputies to the national parliament and regional and local assemblies are less than 25 years old.

In the late 1970s, the country had 8,100,000 workers; 38.2 percent of them were employed in industry, 10.8 percent in agriculture and forestry, 31.3 percent in public transport, domestic trades, the postal services, and manufacturing other than those sectors mentioned above, and 19.7 percent in nonmanufacturing sectors such as the health service and the educational system. Some 49.9 percent of workers were women. Women enjoy a number of benefits which are very advantageous to their children. For example, they get six months paid maternity leave, and have the possibility of taking 12 months holiday after childbirth. Working mothers who have two or more children under 16 years of age have their working hours reduced without any reduction in pay.

Table 1
Levels of education among workers (%)

Year	Certified as semiskilled/unskilled	Vocational education and certified as fully skilled workers	Tertiary education
1955	70	25.6	4.4
1975	29.3	56.6	14.1
1980	19.8	61.4	18.8

The birth rate, which was rather erratic from the end of the Second World War to the mid-1970s, has since been steadily, if slightly, increasing.

Table 1 presents statistics on the educational level of all workers for the years 1955, 1975, and 1980. In 1980, for example, 18.8 percent of all workers had completed tertiary education either at a university or other higher education institution. A further 61.4 percent had completed some form of vocational education resulting in their being certified as fully skilled workers. Some 19.8 percent were below this qualification level. In particular, women employed in agriculture improved their educational level. In 1960, of those employed in agriculture 95 percent were unskilled, but by 1980 this figure had dropped to 12 percent.

All the changes that have taken place in the German Democratic Republic have been actively contributed to by the country's educational system, which itself has experienced dramatic changes. The 1946 School Reform laid the foundation stone of a new kind of education, an education that instills into children the spirit of humanitarianism, democracy, and peaceful international cooperation. The old two-tier system was scrapped together with all exclusive and denominational private schools. The new system was based on an eight-year democratic unified school. Religious instruction came to be left to religious communities; but the right to it was laid down in the Constitution. The number of rural, one-teacher schools, which taught children in all eight grades in one classroom simultaneously, was 4,114 in 1945-46; by the early 1960s there were none. At this time, there were a very few schools left that taught two grades simultaneously, but they, too, have now disappeared.

The introduction of the 10-year general secondary school for all (*Polytechnische Oberschule*—POS), which was begun in the late 1950s, was completed in the mid-1970s. This type of school now provides the basis for any subsequent education. The details of the system are contained in the Law on the Integrated Socialist System of Education, which was passed in 1965 and was still valid in 1984. The new school allows all children to reach high basic-educational standards on which they can subsequently build their careers. This can, however, only be achieved in a social environment where working people are full of self-confidence and take an active part in their country's social and cultural affairs, and where everybody is given the best possible conditions for development throughout their lives. Everybody has the same right to education; this is now a fact of life in the country, as well as a principle that is laid down in the Constitution of the German Democratic Republic.

2. Aims of the Educational System

The 1965 Law states: "It is the purpose of the integrated socialist system of education to give the entire people a high degree of education and educate universally developed personalities who make deliberate efforts

to shape society, change nature, and lead happy and fulfilled lives worthy of man" (*Unser Bildungssystem* 1965).

The law also points out that young people must learn how to cope with the demands made on them by the scientific and technological revolution. It says that they are not only to acquire general and vocational knowledge and skills, but are also to have their character and ideology developed. They are to be educated in the spirit of communist morality, that is, in the spirit of comradesly cooperation and mutual help, international solidarity, active readiness to learn, high appreciation of any work done for the benefit of society, and also social justice and civic activity. They are to be enabled to undertake continuous learning, to lead healthy lives, do sports, make meaningful use of their spare time, and cultivate the arts.

3. General Structure and Size of the Educational Effort

The structure of the educational system is shown in Fig. 1.

3.1 Preschool Education

Crèches take care of children of up to 3 years of age and care for their physical and mental development throughout the day. There is one nurse to every 6 children. Nurses are trained in both medicine and education. In 1950, crèches were attended by 13 percent of children under 3; and in 1980, the figure stood at 61 percent. But the rising demand for education in crèches has not yet been fully met.

Children 3- to 6-years old can go to kindergarten, also throughout the day. In 1950, some 20.5 percent of the children in that age group were attending a kindergarten. The figure rose to 65 percent in 1970, and 92 percent in 1980. Since then, it has gone up even further, which means that all parents who wish to send their children to kindergarten are now in a position to do so. At most kindergartens, children are divided into groups according to age. They pursue different activities, which are guided and motivated by kindergarten teachers in accordance with programmes based on sound educational principles. Kindergartens maintain a very close cooperation with parents. They can, therefore, make systematic efforts to encourage the children's physical, mental, and linguistic development. They help children to practise moral habits and proper behaviour within a group and develop aesthetic needs. By the time they reach the age of 6, children are well prepared for school.

3.2 General Polytechnical School

Attendance of 10-year general polytechnical school, which has become the core of institutionalized education, is compulsory for all children in the country. While in the early 1970s, only 75 percent of children took the leaving examination of the school, the figure

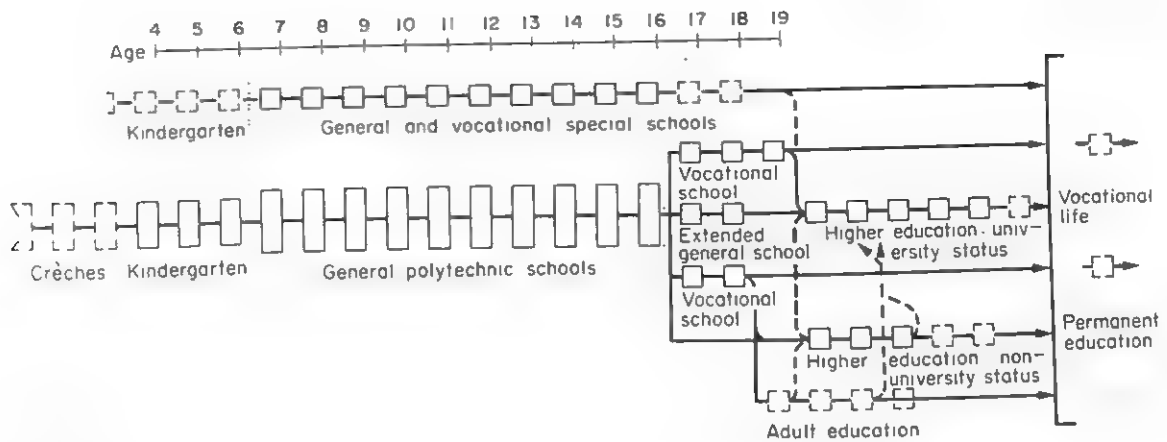


Figure 1
Structure of the educational system

had risen to over 90 percent by the early 1980s. The school introduces children to academic subjects and to life, placing a great deal of emphasis on science and technology. Table 2 shows what subjects are taught for how many 45-minute periods a week. School attendance takes up 35 weeks a year; the rest is holiday.

Very important are voluntary extracurricular activities. To pursue them, pupils can go to clubs, special-interest groups, facilities of the Young Pioneers organization, centres for young naturalists and engineers, and a variety of sports groups; 70 percent of pupils do so. Pupils can spend their holidays at summer camps maintained by the Young Pioneers or their parents' employers, which are obliged to run such camps and are, in this respect, accountable to the trade unions. All this encourages school children to develop their academic, artistic, and other talents beyond the level possible in the classroom. The media are increasingly involved. Radio and television offer programmes designed to assist in the teaching of a number of subjects. During their first four years at school, more than four out of every five school children spend their afternoons at after-school centres, where they do their homework and carry on leisure pursuits of their own choice under the guidance of well-trained educators.

The 10-year school divides its grades into three groups: junior (grades 1-3); intermediate (grades 4-6); and senior (grades 7-10).

Specialized instruction in the natural sciences, the social sciences, and a compulsory foreign language begins in the intermediate grades. All subjects are taught by specialist teachers, usually in specially equipped classrooms. Children are increasingly enabled, especially in the senior grades, to recognize natural and scientific laws and understand theories. They are taught the skills and techniques necessary if they are to acquire knowledge independently and they are taught how to apply theoretical knowledge in practice.

The principle of polytechnical education underlies the teaching of each and every subject and is applied

throughout the school. Yet polytechnical education is also specifically provided in several special subjects. It begins with handicraft and technical work at school workshops and also with gardening lessons (see Table 2). From grade 7 on, it is usually given in production enterprises: on the shopfloor, at polytechnic centres, in apprentice workshops, etc. It comprises both general and specific training. A subject called "Introduction to Socialist Production" systematically makes pupils familiar with the general scientific, technological, and economic fundamentals of production. They undertake productive work at suitable workplaces in close cooperation with working people, thus as a rule making a direct contribution to the enterprises' production effort. Productive work is specified in accordance with what local enterprises there are. The preferred fields are metalwork, electrical engineering/electronics, farming, and building construction. It forms part of general education and plays an important role in vocational guidance and in the general preparation of children for work later on in their lives.

Important differentiations are introduced into general education by the teaching of an optional second foreign language from grade 7 on and by optional courses in grades 9 and 10—there are 23 different types—in accordance with skeleton programmes. Every school offers a choice of such courses. Together with other extracurricular activities which differ from child to child, the courses help children to find out what trades they can and would like to learn, and what kinds of education they can and would like to receive after they have left school. Vocational guidance is also provided by a whole network of local advisory centres. As a result, more than three out of every four school-leavers can learn their first choice of trade, because this trade will be in line with what society needs. It is, and will continue to be, taken for granted in the German Democratic Republic that everybody can receive vocational training and, afterwards, a suitable job in which they can apply what they have learned.

Physically and mentally disabled children who are

Table 2
Timetable for the ten-year general polytechnical school

Subject	No. of periods in grades									
	1	2	3	4	5	6	7	8	9	10
German	10/11	12	14	14	7	6	5	4	3	3
Russian	—	—	—	—	6	5	3	3	3	3
Mathematics	5	6	6	6	6	6	6	4	5	4
Physics	—	—	—	—	—	3	2	2	3	3
Astronomy	—	—	—	—	—	—	—	—	—	1
Chemistry	—	—	—	—	—	—	2	4	2	2
Biology	—	—	—	—	2	2	1	2	2	2
Geography	—	—	—	—	2	2	2	2	1	2
History	—	—	—	—	1	2	2	2	2	2
Civics	—	—	—	—	—	—	1	1	1	2
Drawing	1	1	1	2	1	1	1	1	1	—
Music	1	1	1	1	1	1	1	1	1	1
Sports	2	2	2	3	3	3	2	2	2	2
Manual instruction	1	1	2	2	2	2	—	—	—	—
Gardening	0/1	1	1	1	—	—	—	—	—	—
Polytechnical instruction (grades 7-10), divided into:										
Introduction to Socialist Production							1	1	2	2
Technical drawing							1	1	—	—
Productive work							2	2	3	3
Lessons a week	21	24	27	29	31	33	32	32	31	32
Free options:										
Needlework	—	—	—	1	1	—	—	—	—	—
Second foreign language	—	—	—	—	—	—	3	3	3	2
Special interest groups (in 23 fields)	—	—	—	—	—	—	—	—	2	2

capable of being educated go to special schools (*Sonderschule*) and are subsequently given vocational training. Mentally retarded children get only eight years of general education.

In addition, there are schools and classes with extended instruction in certain subjects (*Spezialschule*). They are attended by children who are particularly talented in music, dancing, sports, languages, mathematics, natural science, technology, or other fields. The grade in which the attendance of a school or class of this kind starts differs from subject to subject; and the children in question usually go to school for a total of 12 years and can then go on to university. Although educationally and socially important, these schools teach only a very small number of school children (usually no more than 2 percent). Special schools of mathematics and of natural science and engineering begin with grade 9 at the earliest.

3.3 Vocational Schools

Every young person in the country follows the 10 years general education with at least another two years training. Whatever this training may be, it entitles them to

unimpeded, if different, access to tertiary education, namely, education at one of the two types of establishments of higher education: either *Hochschule* (universities and schools of university status) or *Ingenieurschule* or *Fachschule* (higher technical or other colleges). Most young people spend the two years at a vocational school (*Berufsschule*).

Vocational schools are usually full-time schools. They are run by large socialist enterprises and train young people apprenticed to these and other enterprises. Every fourth apprentice is accommodated at a residential home.

On completing vocational school training, the student receives a skilled-worker certificate (*Facharbeiterzeugnis*), which has a traditionally high reputation and gives its holder the right to go on improving his qualifications later on.

Since the beginning of the 1970s, it has become increasingly necessary for skilled workers to acquire a certain mobility so that they can move from one job to another related one, if necessary. That is why apprentices have been trained in broadly based so-called basic trades, within which a number of specializations are

possible. In 1980, every third apprentice learnt a basic trade of this kind. There is a particularly rapid increase in the number of apprentices who learn trades requiring the operation of sophisticated technical equipment. And the same is true of the trades needed by the social services.

Whatever trade an apprentice learns, he or she receives compulsory training in the following subjects: sports, civics, legal affairs, factory management, and also the fundamentals of electronic data processing, process instrumentation and control engineering, and electronics. The amount of training provided in these subjects differs from trade to trade, however, and so does the relative amount of theoretical and practical instruction in specialized training.

After a period of practical work, the skilled-worker certificate allows its holder to have access to *Ingenieurschule* and *Fachschule*, which are establishments of higher education just below university status (10+ 2+ 3/4 years).

In addition to the vocational schools, there are a number of establishments, also called *Fachschule*, which can be attended immediately after the 10-year school and are not establishments of higher education in the proper sense of the word. These include schools training hospital nurses. Immediately after the 10-year school, young people can also enrol in schools providing four-year courses to train teachers for grades 1 to 4. The standards of these schools, which are also establishments of higher education below university status, will be further raised in the 1980s.

3.4 Schools Providing University-entrance Qualifications

Having left the 10-year school, a young person can choose between two direct ways of obtaining *Abitur* (the certificate entitling its holder to enrol at a university of university status): he can either go to a two-year extended general school (*Erweiterte Oberschule*—EOS) or start a three-year course at a vocational school where he will additionally get a skilled-worker certificate (the latter is a useful preparation for technological studies). But there are also two indirect ways to university-level education. They lie via 12-month full-time courses for skilled workers and via evening classes. In some fields they also lie via *Ingenieurschule* or *Fachschule*.

At the end of the 1970s, some 10 percent of 10-year-school leavers were taking *Abitur* at the two-year extended school, and 5 percent at vocational schools. While these figures were relatively stable, the number of those obtaining *Abitur* in other ways was not, and was invariably much smaller.

The two-year extended school, the principal establishment for young people to study for *Abitur*, continues to teach nearly all the subjects taught at the 10-year school. Polytechnical instruction is given in the form of project-based scientific and practical work, which is pursued in small research groups. The school teaches every student subjects of his or her choice for five

periods a week each and optional ones for another three.

In 1980, the two-year schools started to introduce new curricula and textbooks based on the higher level of education that pupils had by then reached at the end of the 10-year school. The new curriculum aims at making pupils more independent in their learning activities and developing their academic thinking and working. Similar changes have taken place in the other types of schooling for acquiring *Abitur*.

3.5 Higher Education

The German Democratic Republic has a total of seven universities—one each in Berlin, Dresden, Greifswald, Halle, Jena, Leipzig, and Rostock—and 47 specialized schools of university status (*Hochschule*), which are simultaneously important centres of research. A course of full-time studies usually lasts 5 years, with 12 months of preparatory practical work required for certain types of study. Full-time studies are taken up by three out of four *Abitur*-holders. Over many years, an average of 55 percent of students have come from workers' and farmers' families; and, in the 1980–81 academic year, half were women. More than three out of four students stay at student hostels.

Universities and schools of university status seek to establish and preserve the integration of character education and academic training, of teaching and research, and of theory and practice. Students give their training establishments more help than before in research studies and in putting the latest scientific findings to practical use.

On completing their studies, students acquire a diploma, roughly the equivalent of a master's degree. They are then diploma-ed historians, diploma-ed teachers (qualified to teach pupils from grade 5 on), diploma-ed engineers, etc. They can subsequently be selected to be research or postgraduate students for three years, or assistant lecturers for four years, and to write a doctoral thesis, publicly defend it, and obtain a Ph.D. degree. They can then write a second thesis to obtain an advanced doctoral degree, which used to be called *doctor habilitatus* (Dr. habil.) until the 1970s, when it was renamed *doctor scientiae* (Dr. sc.). This is a condition for appointment as a senior lecturer or, later, professor.

The same principles apply to the 250 or so schools called *Ingenieurschule* and *Fachschule*, which are a less advanced and more practical type of establishment of higher education where full-time studies usually take three years and correspondence and evening studies four to five years. Those leaving them are mostly given jobs in which they have to apply the latest scientific and technological knowledge. Beginning in 1984–85 training in technology and economics at the *Ingenieurschule* will cease to be parallel to the *Hochschule* system of higher education and gradually become a separate stage in the *Hochschule*-type school (Fig. 1 does not show the emerging new structure).

The number of students enrolled at the two kinds of establishment of higher education has been increasing rapidly since the German Democratic Republic was founded. In 1980, more than one out of every four persons of the relevant age was obtaining some kind of higher education. Between 1971 and 1980, 21.6 percent of the 346,600 persons starting studies at universities and schools of university status were attending correspondence or evening courses, and so were 38.7 percent of the 507,400 starting studies at *Ingenieurschule* or *Fachschule*. They were receiving considerable assistance, including a large amount of time off from work.

3.6 Advanced Training and Adult Education

Every fourth worker attends some organized form of advanced training, either to acquire the next higher qualification or to add to knowledge already acquired. Workers take courses at enterprise-owned training centres (*Betriebsakademien*), and senior enterprise staff and scientists take postgraduate university courses. Collective agreements, which are concluded annually between the management and the trade union branch of an enterprise and lay down joint measures to ensure the fulfilment of economic plans and the improvement of working conditions, often contain provisions that allow the management and an employee to sign an agreement under which the employee undergoes certain advanced training; and the trade unions then keep an eye on the fulfilment of the agreement.

The enterprises' training centres mainly offer two-year courses for skilled workers who wish to be foremen, production organizers, or heads of work teams. In addition, there are many ways in which general, cultural, and political further education can be obtained. This education is provided in particular by evening classes (*Volkshochschule* or People's College) and series of lectures arranged by the *Urania* Society for the Dissemination of Scientific Knowledge, clubs, and television including educational lectures for parents.

Trade unions, public organizations, and political parties run schools and courses of their own. There are many kinds of adult education that rely on the cooperation of the staff of establishments of higher education.

Some countries make a clear distinction between formal and nonformal education. But these two types are so closely linked for people of all ages in the German Democratic Republic that it is virtually impossible to describe them separately.

4. Administration and Supervision

The government of the German Democratic Republic has three bodies in charge of the integrated socialist system of education: the Ministry of Education, which is responsible for the general education of people of all ages; the State Secretariat of Vocational Training; and the Ministry of Higher and Technical Education. All

three are accountable to parliament (the People's Chamber). The regional and local authorities of education are accountable to both the regional or local assemblies and the next higher educational authorities. School principals are personally responsible for the running of schools. Very important is the involvement of a wide range of social forces and cooperation among teachers, parents, the youth organization, work teams of socialist enterprises, and public organizations. Further support for schools comes from the over 650,000 parents who have been elected by other parents to represent their interests at schools. Approximately 150,000 working people help run polytechnic classes, thus exercising a direct educational influence on pupils.

5. Finance

In view of the rather intricate situation described above, it is difficult to determine how much of the national income is spent on education. It was probably between 7 and 8 percent in the 1970s, with another 4 percent spent on science and technology.

All education from crèche to university is free of charge. Nominal fees have to be paid for meals and hostel accommodation. In compulsory education, textbooks and similar learning materials are either provided free of charge or can be bought at subsidized prices.

Everybody receives some money after leaving the 10-year school. Apprentices are paid wages, and pupils in grades 11 and 12 (or 13) and university students are granted allowances irrespective of the size of their parents' incomes. Additionally, social-welfare grants are paid, for example, to students who have children.

In 1980, every third pupil of a 10-year school was taught in buildings completed after 1970. The national pupil/teacher ratio was 24:1 in 1960 and 14:1 in 1980.

6. Teachers

The universities and schools of university status train teachers for grades 5 to 12 (or 13) of the schools of general education—everyone studies to teach two subjects—and also teachers giving theoretical instruction at vocational schools, while the *Fachschule* trains teachers for grades 1 to 4 and instructors for practical vocational training. Teachers for disabled children, career-guidance officers, headmasters and headmistresses, and other senior educational staff receive the training described above, plus some additional training following a period of work in their professions.

Every teacher is required to improve his or her qualifications all the time. Opportunities range from a centrally run system of courses to joint methodological work carried on by teachers of the same subject in working groups at their schools. The basis is invariably private study. An important part is played by a network of advanced-training establishments.

There is no shortage of teachers. There are only very few teachers who have not received standard teacher training. Occasionally, it is difficult to ensure that every teacher teaches only the two subjects that he has been trained for. There is no unemployment among teachers. Employment is guaranteed by law.

7. Curricula and Teaching Methods

Curricula, textbooks, teacher guides, etc., are always developed together by teams made up of educationists, experienced teachers, other kinds of scholars, representatives of educational authorities, and other groups. Before a curriculum is introduced, everything new is tested and discussed with experts and teachers. If endorsed by the minister of education, curricula are valid for all relevant schools in the country without exception.

When the transition was being made from the eight-year school to the 10-year school in the 1960s and 1970s, the entire content of general education was changed and reorganized. And the same happened in all subsequent stages of the educational system. Whenever new important experience has been obtained, further improvements are made in the relevant subject or grade. While these improvements are usually quite specific, they generally aim to provide progressive concentration on key questions relating to content; better utilization of the specific ideological and educational potentials of the subject matters taught; closer links between teaching and society and between teaching and the pupil's personal experience; and more effective guidance to show pupils how they can learn independently and creatively.

8. Examinations, Promotions, and Certification

In all types of school, pupils and trainees are annually promoted to the next higher grade on the basis of marks and statements about their proficiency. They have to take examinations—oral and written—only on completing their education at a particular type of school. The final certificates reflect their performances throughout their training, the trends in such performances, and results of examinations. The higher the level of school or course, the greater the role of long-term independent work, which takes the form of papers, technological products, and artistic works and is related to a theme chosen by the pupils or trainees themselves.

Admission to educational establishments is granted on the basis of a pupil's or trainee's proficiency, with account being taken of statements about his or her personal talents and abilities, which are written by teachers in cooperation with representatives of the youth organization or the trade unions. There are, on the whole, no entrance examinations. Such examinations are held only if the previous school's final certificate does not contain sufficient information about a pupil's qualifications to take up a very special course of studies, for example, to become an actor.

9. Educational Research

Considering the small size of this country, educational research has always been allocated considerable funds. Important national research establishments are the Academy of Pedagogical Sciences of the GDR, the Central Institute of Vocational Training, the Central Institute of Higher Education, and the Central Institute of Youth Research. They have signed agreements with universities and establishments of teacher training under which they cooperate closely with the research workers employed there, and they also cooperate with other scholars and academies. Research takes place in accordance with programmes that are in force for five years. It concentrates on important practical aspects of education and on long-term issues involved in the development of the educational system. Matters of principle are investigated in close cooperation with research establishments in other socialist countries. Research is assisted by experienced teachers at what are called research schools.

10. Conclusion

The 1965 Law on Education and a number of subsequent government decisions started a sweeping reform of the entire system of education in the German Democratic Republic. The reform, which was part of the big revolutionary change going on in the nation, was completed by 1978, when the pupils leaving the new 10-year school were the first to be taught under new curricula from beginning to end.

Over the next few years, all stages of the system will continue to be improved. As the 10th Congress of the Socialist Unity Party of Germany (SED) stated in 1981, the newly created conditions and potential will have to be used fully so that education can become increasingly better and more efficient.

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Germany, Federal Republic of

J. Naumann and H. Köhler

The Federal Republic of Germany (FRG) covers an area of 249,000 square kilometres (96,140 square miles) in central Western Europe, approximating the western half of the former German Reich as it existed until the end of the Second World War and the collapse of the Nazi regime in 1945. It borders in the east on the German Democratic Republic and the Czechoslovak Socialist Republic, both members of the Eastern European socialist block, in the south on Switzerland and Austria, in the west on France, Belgium, and the Netherlands, and in the north on Denmark.

Founded in 1949, in the three occupation zones of the major Western allies, and attaining full sovereignty in 1955, the Federal Republic of Germany consists of 11 states, of which three (Berlin, Hamburg, and Bremen) are city states. The formal political system is a parliamentary democracy with two houses at the federal level: the federal parliament and the federal council (representing the governments of the 11 states). To be politically represented at the local, state, or federal level, the parties have to obtain at least a fixed minimum portion of the votes cast in an election (usually 5 percent). By the end of the 1950s, the major political forces were the Christian Democrats and the Social Democrats, integrating, respectively, most of the right and the left of the political spectrum, and the small Liberal party. The federal constitution provides that cultural matters (and especially education) are part of the domain in which the individual states are sovereign. Therefore, the federal government's involvement in primary and secondary education has been, and still is, extremely limited, whereas it is somewhat more important in higher education and research.

The political climate of the 1950s was determined by the trauma of fascism and its consequences, the main one being the partition of Germany. The economic reconstruction and recovery of a divided Germany coincided with growing East-West antagonism, on the one hand, and increasing political and economic integration of the two German republics with their neighbours and political allies, on the other.

In the 1960s, the wound left by defeat in war slowly healed, and the preoccupation of the national consciousness with the partition of the country subsided. The ideological confrontation lost much of its sharpness, both internally and externally. A mood of progress and regained self-confidence permeated public life, and the challenge of economic and social modernization was confronted with optimism. By the end of the decade, a coalition of Social Democrats and Liberals ended a 20-year era of uninterrupted predominance of the Christian Democrats in the federal government.

The 1970s saw a renewed emphasis on internal affairs and reforms, coupled with efforts to improve and normalize relations with the socialist countries in general,

and the German Democratic Republic in particular. In the second half of the 1970s, the world economic crisis increasingly affected and constrained German politics and—together with increased East-West tensions—reactivated tendencies towards political polarization. In 1982, the Social Democratic/Liberal coalition broke up and made way for a Christian Democratic/Liberal coalition which began to fight the serious economic crisis with a market-oriented austerity programme.

The overall demographic dynamics of the Federal Republic of Germany (see Table 1) are the same as those of other highly industrialized countries. The birth rate, already low during the first two decades after the war, dropped even further in the 1960s, when the transition from demographic stability to a low rate of population decrease took place. The educational system has been strongly affected by this transition. The size and structure of the population of the Federal Republic of Germany have also been influenced by two waves of migration. The first and larger one was concentrated in the immediate postwar years and consisted of displaced persons and refugees of German origin from the eastern parts of the former Reich and the newly constituted German Democratic Republic (a total of some 12 million persons). The second, smaller wave was the influx of migrant workers and their dependents from southern member countries of the European Economic Community, Yugoslavia, and from Turkey. Since the middle of the 1970s, foreign children have constituted a large and ever-increasing percentage of the school-age population.

1. Goals of the Educational System

In 7 of the 11 states of the Federal Republic of Germany educational goals are explicitly set forth in the state constitutions; the other 4 states mention such goals in their school legislation. Both general and specific goals are also defined in the comprehensive syllabi prepared by the state educational authorities. Furthermore, there is ongoing public debate about the purposes, strengths, and weaknesses of the system. The persistent overall structure of the goals can be described as dichotomous, in the sense that they specify conceptions of the students as individuals, on the one hand, and conceptions of their social, political, and cultural commitments, on the other. The clear trend emerging from the past 35 years of development since the 1950s, and especially during the years of active educational reform (1965–75), has been the emphasis placed on the development of the individual personality of the pupil, an emphasis which is supplementary to, or at times has even been in conflict with the constitutionally guaranteed educational rights of the parents. The autonomy of the individual student, his or her particular abilities, motives, and interests, are

Table 1
Socioeconomic indicators 1950-84^a

	1950 ^b	1955 ^b	1960	1965	1970	1975	1980	1984
Population (1,000s)	47,696	52,521	55,860	59,297	61,001	61,645	61,658	61,049
Age-group (%)								
under 6	8.2	8.6	9.3	10.1	9.2	6.6	5.7	5.8
6-14	13.3	12.3	12.2	12.5	13.9	14.6	12.1	9.4
65 and above	9.3	10.5	10.9	11.9	13.3	14.6	15.5	14.7
Foreigners (1,000s)	—	—	600 ^c	1,600 ^c	3,000 ^c	3,900	4,566	4,405
as % of total	—	—	1.1	2.7	4.9	6.3	7.4	7.2
Live births (1,000s)	773	785	969	1,044	811	601	621	584
Net rate of reproduction (%)	0.93	0.95	1.11	1.16	0.94	0.66	0.65	—
GNP per capita (DM)								
at 1976 prices	5,698	8,515	11,065	13,294	15,780	17,209	20,555	21,253
Mean rate of growth								
in the last 5 years	—	8.4	5.4	3.8	3.5	1.8	3.6	1.2
Active labour force (1,000s)	20,376	23,230	26,247	26,887	26,668	25,350	26,874	26,608
in agriculture (%)	24.6	18.5	13.8	10.7	8.5	7.2	5.3	5.2
in processing and manufacturing (%)	42.6	46.6	47.7	48.8	48.8	47.3	45.3	41.9
Rate of unemployment (%)	11.0	5.6	1.3	0.7	0.7	4.7	3.8	9.1
Share of females in the labour force (%)	35.7	36.0	37.4	36.5	36.1	37.0	37.6	38.2

^a Source: Federal Statistical Office *Statistical Yearbooks* ^b Excluding Saarland and West Berlin, which had, respectively, populations of 1 million and 2.2 million in 1955 ^c Estimate

stressed both as legitimate preconditions for the various stages of the educational process and as being necessary for the development of the future adult, irrespective of differences in social origin, sex, religious affiliation, and racial origin. The latter two categories have become more controversial than the others because of the growing numbers of non-German children in the schools of the Federal Republic of Germany. The counterpart to this slow process of collectively spelling out the rights of children and students as individuals have been certain modifications in the conception of their social, political, and cultural commitments. The emphasis on basic values of democracy—freedom and tolerance, on the one hand, and acceptance of majority decisions, on the other—has remained; however, the references to political, moral, and religious concepts have changed both in wording and meaning. Commitment is no longer made to "our people," "the homeland," or "the fatherland." Now, commitment is to the Federal Republic of Germany society as an integral part of Europe and the European tradition. Similarly, the notion of one Christian God or commitment to Lutheran or Roman Catholic forms of religious instruction has been replaced increasingly by an ecumenical concept of a transcendental authority and comparative religion. More abstract, and in that sense secularized, notions of ethical instruction are replacing the traditional religious ones. Further, there was a conscious effort—concentrated in the period 1965-75—to modernize the curriculum of the different types of schools by orienting them more strongly to the structure of the academic disciplines.

2. General Structure and Size of the Educational Effort

2.1 The Formal Educational System

The general features of the formal education system are shown in Fig. 1. Preschool or nursery-school facilities are, for the most part, sponsored and run by churches, private welfare agencies, and other private groups. Although these facilities are subsidized by the state governments, attendance at them is voluntary. On a republic-wide average, they are capable of handling some 80 percent of the relevant age group. In general, the primary level consists of the first four grades, which are followed by a two-year orientation stage. In most states, the orientation stage is part of each of the three major types of secondary school, but in Hesse and Lower Saxony it is not school-type specific.

The secondary level consists essentially of three types of school. Firstly the *Hauptschule* (similar to the former British secondary-modern school), which has 9, in some cases 10, grades, is attended by about 36 percent of the relevant age group. The majority of its graduates go on to part-time vocational schools and apprenticeships. Secondly, the *Realschule*, which has 10 grades and is attended by about 26 percent of the secondary-school age group, offers an academically more demanding curriculum. Its graduates enter apprenticeships or full-time vocational schools with the prospect of continuing later in polytechnic colleges (*Fachhochschulen*). Thirdly, there is the *Gymnasium*, predominantly academic in its orientation. It is attended by about 27 percent of the lower-secondary-school age group, of

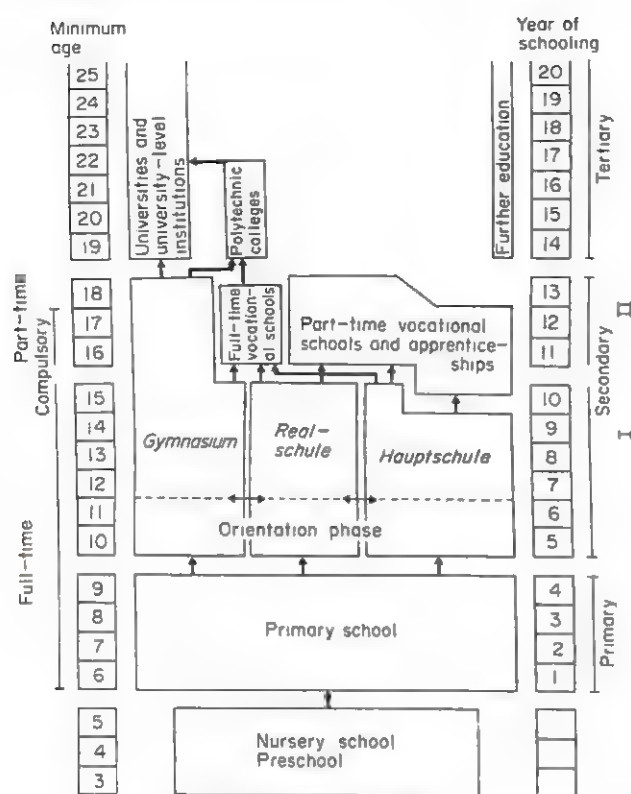


Figure 1
Formal educational system (1980)

which some 80 percent obtain the certificate of graduation (*Abitur*) entitling them to continue their studies at university-level institutions or polytechnic colleges.

Special mention must be made of vocational training at the upper-secondary level, which is unusual, especially in comparison with the vocational training offered in other Western countries. The outstanding feature of the so-called dual system of initial vocational training is the comparatively close link between apprenticeships, lasting usually about three years and offered and organized by privately and publicly owned enterprises (more or less in accordance with overall trends of economic and technological developments as perceived by these enterprises), and part-time vocational training of a more general and theoretical kind offered by state-run schools. The system, although often charged with being conditioned by economic considerations, has proved to be a quite effective and smoothly working link between general education, on the one hand, and gainful employment, on the other, bridging the partial contradiction between them.

At the tertiary level, the two most important types of institutions are the polytechnic colleges, attended by about 22 percent of all tertiary-level students, and the universities, attended by more than 65 percent. Some 18 percent of the age group 19–26 attend tertiary-level institutions; about 21 percent of an age cohort begin tertiary education. Polytechnic colleges consist mainly

of schools of engineering and some schools in the new professions such as administration and welfare. The courses of study they offer are much more practically oriented than those offered by universities, are quite tightly organized, and usually last for three years. Advanced vocational training or the *Abitur* are prerequisites for admission to polytechnic colleges. It is possible for graduates of these colleges subsequently to study their fields of specialization at a university.

The normal entrance qualification to university studies is the certificate of graduation from the *Gymnasium*, the *Abitur*, which, in principle, entitles its holder to pursue any course of study at any university. In practice, however, access to training for a number of professions (notably, the various types of medical training) had to be limited in the 1970s because the applications for admission to these programmes greatly exceeded the universities' capacities. In a number of other fields, measures had to be employed which effected the distribution of applications for admission among different universities. At German universities, there is no equivalent of general undergraduate study; the courses of study are, from the outset those of "professional schools". The average length of study is currently about five to six years.

By constitutional provision, the states have a fiduciary responsibility with regard to the formal educational system. Thus, there are practically no private universities, and the few private schools (attended by about 6 percent of all pupils) must comply with minimum academic standards which ensure that they are comparable with the public schools. The private schools are also entitled to extensive financial support. As a rule, school teachers are tenured civil servants of the states. The local communities have certain rights to participate in decisions concerning the location of schools and certain financial obligations with regard to school buildings and their maintenance. Matters pertaining to the curriculum and professional personnel are the responsibility of the states, however. The most important mechanism for coordinating the education and science policies of the different states is the Standing Conference of Ministers of Culture, established in 1949. The efforts of this conference are supplemented by ad hoc treaties of cooperation between the states and the federal government and, since 1970, by the Joint Commission of the Federal and State Governments for Educational Planning which serves to accommodate the interests of the federal government and the state ministries of finance in the states' policies on higher education, science, and research. Some of the problems encountered by the commission stem from the states' suspicions that it might serve as a vehicle for intervention by the federal government in these policies.

The overall dynamics of structural change of the educational system since the 1950s are shown in Fig. 2. However, since the figure depicts changes of enrolment rates according to age, it does not show the problems caused by dramatic changes in the absolute size of

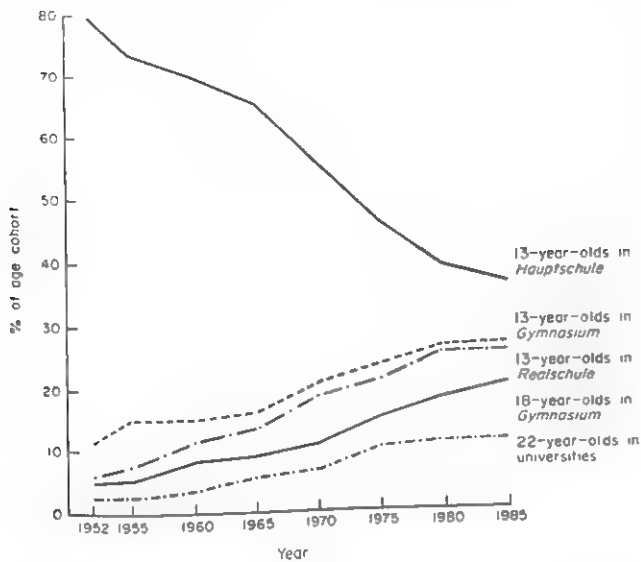


Figure 2
Enrolment rates for selected age cohorts and institutions
1952-85

the respective age cohorts. Most salient is the rapid structural change occurring between 1965 and the late 1970s, namely the shift from the *Hauptschule* to the *Realschule* and the *Gymnasium*, with a subsequent sizeable increase in university enrolment (polytechnic colleges are not included in the measure). This change has continued, at a reduced pace, into the 1980s. Thus, with considerable delay, the trends in the development of the Federal Republic of Germany's educational system caught up with those which had occurred earlier, and in some cases more intensely, in other industrialized Western and Socialist countries. The fact that the Federal Republic of Germany was late in "modernizing" its educational system might be explained by the population's sociopsychological resistance to pressures for modernization and expansion of the traditional German educational system which were exerted by the occupation forces in the late 1940s, measures which were rapidly carried out in the Soviet zone and continued by the socialist government of the German Democratic Republic.

It became a matter of pride, and a way to stabilize a collective national self-concept, not to give in to the suggestions and criticisms voiced by outsiders and their supporters within the country. Consequently, in the 1960s the perception of an impending educational catastrophe and a serious lag in modernization was all the more perturbing. Criticism of the educational system initially centered on the dangers to economic and technological growth arising from a lack of highly qualified personnel, a lack which was the consequence of underutilization of the available pool of talent. This type of reasoning was soon supplemented and eventually superseded by arguments stressing the importance of a modernized system of education for providing equality

of opportunity and for preparing a modern citizenry to exercise its rights and fulfil its duties. Differences among the German states in overall participation rates in upper-secondary and higher education of up to 40 and 50 percent, enrolment rates for girls in the *Gymnasium* about half as high as those of boys, striking differences in enrolment between the cities and rural areas and between religious affiliation groups and social-class groups—all these came increasingly to be regarded as serious defects in the educational system and in society in general. The German Education Council (1965-75), an advisory body, became the spearhead of the reform movement, and the introduction of the comprehensive school became its slogan. In fact, however, with the exception of the city states and Hesse, the comprehensive school has never played an important role quantitatively, its enrolment reaching at most 3 percent of the relevant population group in the other states. Nevertheless, the comprehensive school has had a major indirect impact on the reform and restructuring of the traditional tripartite system of education in the Federal Republic of Germany.

By the early 1980s, the selection patterns of the educational system had changed considerably. While differences in enrolment rates by sex have disappeared in general secondary education and have been reduced substantially in tertiary education (38 percent female students compared to 23 percent in the early 1960s), those due to social class persist in both sectors, although they have been somewhat reduced. Religious background—except for the Moslem minority—has become unimportant. These trends generally hold true, in spite of slight variations in the level of enrolment rates between rural areas and cities and among the states (where those with stable Christian Democratic Union governments tend to have slightly lower rates in the *Gymnasium*). Whereas the system's major selection used to occur at the transitional stage from primary to secondary education, it has moved to later stages and has become more diffused, with the transition from secondary to tertiary education now being an important screening point. As for foreign children, recent data, coming somewhat as a surprise to the public, suggest that their attendance rates for the different secondary schools vary less than originally expected from those of German children, provided that they attended primary school in Germany.

2.2 Nonformal Educational Efforts

A wide variety of organizations offer various forms of seminars and courses having either a general or a vocational, job-related orientation. Evening schools for the general public (*Volkshochschulen*), mostly run by the local communities, are the most important of the institutions which offer a flexible general education as well as courses pertaining to leisure-time interests (languages, arts, politics, etc.); they also offer courses fulfilling the requirements for general- and vocational-school certificates. Commercial firms play an important role

Table 2

Public expenditures on education and research (in institutions of higher education) at all levels of government 1965-85^a

	1965	1970	1975	1980	1985
Public Education Budget ^b					
at current prices (million DM)	15,676	27,608	56,870	77,117	82,900 ^d
at 1976 prices ^b (million DM)	26,660	39,319	58,775	65,696	63,468 ^d
share of total budget (%)	11.2	14.1	15.8	15.1	14.5
share of GNP (%)	3.4	4.1	5.5	5.2	4.7
By institutional level (%)					
preschool and youth programmes	3.9	3.2	4.3	4.6	4.9
primary and secondary	65.1	61.5	57.7	56.8	54.9
tertiary ^b	22.6	24.8	23.6	23.0	25.3
further education, student aid, and general support of the sciences	8.3	10.5	14.2	15.6	14.9
By administrative level (%)					
federal	6.6	8.3	9.7	8.8	8.2
state	69.2	68.1	69.6	72.4	74.4
local	24.2	23.6	20.6	18.9	17.4
Expenditures per student at 1976 prices (DM) ^c					
schools—general education	1,181	1,634	2,876	4,095	—
schools—vocational education	641	942	1,660	2,399	—
tertiary institutions ^b	7,869	10,310	12,422	12,097	—

a Source: Federal Ministry of Education and Science b Includes research in the tertiary sector c Deflated on the basis of GNP price index d Estimate

in language training; churches and trade unions offer courses limited to their members or open to the general public, and private and public enterprises offer opportunities for work-related further education. In the early 1980s, each year some 7 to 8 million adults participated in further education activities. Of this number, almost 4 million persons attended various forms of work-related further education, while 0.7 million participated in political education and almost 5 million in general education ranging from health issues, through foreign languages, to family problems. Nonformal education has gained in overall importance since the 1960s. Public support is concentrated, on the one hand, on the *Volks-hochschulen* (more than 300,000 participants per year) and, on the other, on work-related further education and retraining administered and supported by the Federal Labour Administration (some 300,000 participants per year).

3. Finance, Administration, and Supervision

Some indicators of public expenditure on education and science from 1965 to 1985 are presented in Table 2. It does not include public and private expenditures on research and development conducted outside tertiary institutions. Nor does it contain private expenditure, that is, by enterprises, students, and parents. Since fees and tuition have been abolished, students' private

expenditure is essentially for living expenses and incidentals. (Some 10 percent of students in the upper-secondary level and some 30 percent of tertiary-level students receive governmental financial aid.) For the tertiary level, no distinction between expenditures for teaching and research is made in the Federal Republic of Germany's financial statistics. However, the figures in Table 2 indicate clearly that expenditure on education has gone up considerably in absolute, as well as in relative terms from 1965 to 1975, in sharp contrast to the period from 1975 to 1980 when priorities shifted to other fields of governmental responsibility. The predominance of the state governments in financing education has increased over time. The states are responsible for personnel expenditure (representing more than half of the total expenditure) and a large part of construction and equipment costs. The role of the federal government is almost entirely confined to financing research; in addition, it contributes to the financing of construction and equipment at the tertiary level and also to pupil and student aid. Expenditure at the local level is primarily for construction and maintenance of school buildings.

Public expenditure for education is financed almost exclusively out of general taxes. Allocation of these funds to the individual institutions and programmes is mainly determined by the educational authorities at the state level. To secure the constitutionally guaranteed equality of living conditions throughout the republic,

there are general tax-equalization schemes, vertically between the federal and the state governments and horizontally between the various states and between local governments.

Decisions in educational matters in the Federal Republic of Germany are politically centred on the state governments. Coordination between the states is the task of the Standing Conference of Ministers of Culture, which reaches decisions by consensus. While the federal government is not represented in that conference, it cooperates with the states in the Joint Commission for Educational Planning instituted in 1970.

State educational authorities control the local authorities, which are responsible for the maintenance of schools and for the individual schools themselves in a number of respects. They decide on the structure of syllabi and the types of educational materials used, on the training and assignment of personnel, and, to a large extent, on the allocation of resources to schools. Furthermore, the state-organized school inspection supervises the school-administered examinations and the teaching. There are no nationwide standardized examinations; however, the examinations in the different states are mutually recognized. The states try to establish a general equivalence of curricula and comparability of examinations, each within its own boundaries and also in comparison with other states (the latter being one of the major concerns of the aforementioned Standing Conference).

Tertiary institutions, especially universities, enjoy a traditional privilege of self-administration within the limits set by the state laws regulating their organization. The individual institutions confer academic degrees; examinations giving access to civil-service careers are state administered. Coordination between the institutions and the maintenance of common standards in the different disciplines ensure that the degrees they confer are recognized throughout the nation. Vocational education outside the school system is mainly the responsibility of crafts associations and chambers of commerce and industry. These bodies confer certificates of apprenticeship and conduct the certification examinations.

4. Teacher Training

Up to the early 1970s, teachers for the primary level, the *Hauptschule* and, in part, the *Realschule*, received their professional training at teachers colleges (*Pädagogische Hochschulen*), while *Gymnasium* teachers attended university and obtained a degree in a particular discipline, without receiving any special preparation for teaching. This first phase of training was—and still is—followed by a second, school-based phase of training by means of seminars combined with part-time teaching under the supervision of experienced senior teachers. Since the early 1970s, most teacher colleges have been

integrated into the universities, and attempts have been made to upgrade academically the courses formerly offered by them, while at the same time introducing some practically and professionally relevant elements into the studies of the future gymnasium teachers.

Because of the rapid expansion of the *Realschule* and the *Gymnasium* in the period 1965–75, and sizable overall improvements in pupil-teacher ratios, and because extremely large age cohorts were going through the school system during the 1970s, the demand for teachers burgeoned from 1965 to about 1973. It subsequently levelled off (the number of full-time teacher equivalents employed in 1965 was 257,000, in 1980 it was 478,000, in 1984 461,000). Since 1975, the age cohorts entering the school system have become smaller and smaller; the absolute overall number of primary students declined by one third during the period 1975–85.

5. Major Problems

For demographic reasons, the 1980s have seen an unprecedented decline in the absolute numbers of students in primary- and secondary-level schools. At the same time, as the combined effect of the past decades' educational reforms and particularly large age cohorts attending higher education, growing numbers of graduates continue to leave the tertiary sector. Serious problems of labour-market adaptation to the expanding oversupply of highly qualified personnel have developed. If the overall performance of the economy continues to be sluggish, political measures must be taken to redistribute socially available worktime and income. The substantial absolute and relative increase in public resources devoted to education since the mid-1960s makes it likely that other public concerns will henceforth generally be given political priority. The growing concern about the size and the structure of public budgets (and the size of the public debt) certainly points in that direction, and this concern will remain as long as real economic growth rates remain comparatively low. Beyond these technical and economic constraints on the further growth of the educational system, however, there are also problems of an ideological nature. The period from, say, 1960 to 1975 can be said to have been characterized by a hidden coalition of the capitalist/liberal and socialist variants of belief in cognitive rationality and instrumentalism, which lead, among other things, to pronounced efforts to restructure school curricula and orient them towards academic disciplines. Since 1975 an ever stronger ideological undercurrent has challenged the traditional premises and concepts of "modernization". While the more fundamentalist variants of this undercurrent are antirationalistic (i.e., openly or implicitly opposed to education and research), more thoughtful versions call for a blending, or at least a more balanced combination, of cognitive concerns, on the one hand, and aesthetic, evaluative and tran-

scendental concerns, on the other. To some extent, the strength and the final direction of this new ideological force will determine, on one hand, what initiatives are taken in education and scientific-research policy and, on the other, the public support for these initiatives.

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Ghana

C. M. Michel

Ghana is a West African nation formed as an independent state in March 1957 and declared a republic in 1960 after a half-century of British colonial rule, under which it was called the Gold Coast. Ghana covers an area of 238,280 square kilometers (91,976 square miles) just north of the equator, bounded by the Gulf of Guinea to the south, by the Ivory Coast to the west, by Upper Volta to the north, and by Togo to the east.

The population was estimated at nearly 13 million in the early 1980s and was growing at an annual average rate of 3.2 percent (United States Central Intelligence Agency 1982 p. 84). It reached 14 million in 1984 (Europa 1986). Some 99.8 percent of the inhabitants are of African origin, most of them descendants of migrating tribes which probably came down the Volta River during the thirteenth century AD. The remaining 0.2 percent are of European or other heritage.

Ethnically, Ghana is divided into small groups speaking more than 50 dialects; however, English is the nation's official language. In terms of religious affiliation, 45 percent of the people are animists, 43 percent Christians, and 12 percent Moslems.

Over more than two decades of political independence, Ghana's educational progress has been significantly influenced by the nation's political instability and economic problems. Politically, the nation has alternated between military and civilian governments, with

the change often brought about through military coup. Economically, the country has depended on types of agriculture suited to its hot tropical climate, with cocoa being the major export crop in the past. The man-made Volta Lake, 520 kilometers long, provides electric power and inland navigation facilities as well as agricultural irrigation potential. However, as the result of the deterioration of the society's economic infrastructure and a drop in productive efficiency over the 1960s and 1970s, the ability of the country to sustain schools for the growing population has diminished, even with substantial amounts of financial aid from abroad (Europa 1982 p. 382). In the early 1980s, the government launched a campaign to make the nation self-sufficient in food production and to reduce the heavy dependence on cocoa as an export commodity, but whether these goals could be achieved was still unclear in the mid-1980s. Educational development in the future would depend heavily upon the success of the economic-growth program.

As in the rest of Africa, Western schooling was introduced to the Gold Coast by missionaries as early as 1765 and was continued throughout the nineteenth century as a philanthropic enterprise of Christian missions. By 1881, there were 139 missions in the region with a school attendance of 5,000. In 1882, the colonial government began to take an active part in education, with a board

of education nominated to oversee school inspection and to standardize school management (Kaplan 1971 p. 163).

Until the early 1900s, formal educational opportunity was limited to primary schooling, but between the First and Second World Wars secondary education was added and primary schools were substantially expanded. By 1950, a total of 300,000 students were enrolled in schools throughout Ghana, with the British colonial government in 1952 encouraging increased attendance by declaring elementary education free of fees.

During the colonial era, the educational intent of the majority of the colonialists and the majority of Africans differed significantly. The British wished to educate enough Africans to serve in the colonial economic and administrative systems. The Africans wished to acquire the type of European schooling that could make them the equals of the inhabitants of the metropole, thereby to create an African elite which might gain the power and the desire to attain political and economic independence. And indeed, the country did have a substantial corps of Western-schooled African citizens when it became an independent state at the close of the 1950s.

However, educational progress since independence has fallen far short of the ambitions of the nation's

leaders. Because of economic difficulties, the government's 1963 offer of free textbooks in schools was rescinded in 1966 and so pupils once more had to pay for books. By the late 1960s, only 25 percent of the populace were literate in any language, and by 1975 the literacy rate had increased only to 30 percent (Kaplan 1971 p. viii, *World Development Report* 1980 p. 110). By the early 1980s, literacy in English was reported to be around 25 percent (United States Central Intelligence Agency 1982). It reached 30 percent in 1983.

1. Structure and Size of the Educational System

In both government and private schools, formal education in Ghana extends from the nursery school, through a six-year compulsory primary school, followed by a five-year combination of middle and secondary schools (four-year middle school plus one-year secondary school or else a five-year secondary sequence which parallels the middle school), and finally to a series of postsecondary institutions that provide vocational training and university studies (Fig. 1). Enrollments at all levels have increased markedly since the 1950s with the most dramatic growth in primary and middle schools.

In 1967, there were 110 preprimary schools and 120 day care centers in operation, facilities sufficient to

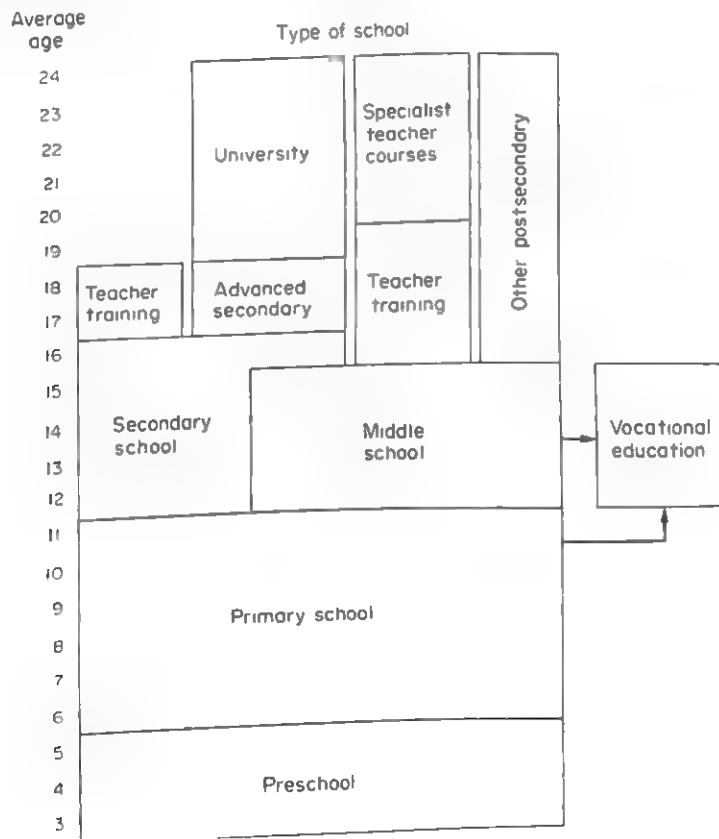


Figure 1
Structure of the educational system

serve 13,710 children, who represented only a small portion of the child population ages 3 through 5. Since that time, both facilities and enrollment have increased considerably.

Primary-school attendance grew rapidly throughout the 1960s and 1970s, from 441,100 pupils in 3,514 schools in 1960 to over 1.1 million pupils in 7,961 schools by 1965. Subsequent slower increases brought enrollment to 1.3 million pupils by the beginning of the 1980s (Kaplan 1971 p. 166, Reams 1981 p. 2) and to 1.9 million by the mid-1980s (Europa 1986).

Middle-school attendance almost trebled over the 1960s, growing from 145,300 in 1960 to 424,400 by 1970, with the number of schools increasing from 1,234 to 2,346 (Kaplan 1971 p. 168). Enrollment more than doubled over the next decade to reach 489,000 by 1980 and 529,000 by 1981 (UNESCO 1984). At the secondary-school level, the proportion of the country's secondary-school-age youth in school in 1960 was 5 percent, a figure that had grown to 29 percent by 1977. As the number of secondary schools increased from 39 in 1960 to 139 by 1972, enrollment more than quadrupled, from 14,000 to 56,800. Between 1972 and 1981, enrollment doubled to reach 129,233 in 1981 (UNESCO 1984).

Higher education is available at three institutions—the University of Ghana in the suburbs of the capital Accra, the University of Science and Technology in Kumasi, and the University College of Cape Coast in Cape Coast. In 1966, there were 4,506 students in higher education, a number that had increased to 5,600 by the latter 1970s [and to more than 8,000 by the mid-1980s (Europa 1986)], and yet in 1976 university students represented only 1 percent of the nation's youth between ages 20 and 24 (Reams 1981 p. 2, *World Development Report* 1980 p. 154). In addition, many students enter tertiary institutions abroad. As early as 1966, there were 3,410 students studying in Europe, North America, and Australia, with 600 others in the Soviet Union (Kaplan 1971 p. 171).

Besides its general educational system, the nation provides opportunities for technical and vocational studies. As with general academic studies, missionaries were also the pioneers in vocational education. Around 1880, at the time when the missionaries were setting up schools, hospitals, and clinics in the Gold Coast, they began to train nurses and midwives locally. They also used the local dialects to instruct people in sanitation, first aid, and crafts and established centers for demonstrating scientific farming (Kaplan 1971 pp. 64–66).

In 1909, the colonial government joined the vocational-training movement by setting up a technical school and a teacher-training college, with similar institutions established by both the government and missions in subsequent years, so that by 1967 the total number reached 33 with a total enrollment of 7,500 students. By 1981, vocational studies were offered for a total of 21,280 students in crafts, engineering and the building trades, catering, home economics, auto and refrigerator

repair, navigation, and secretarial work (Reams 1981 p. 2).

To supplement the formal school system, a mass literacy campaign was launched in 1951 to teach adults to read and write in the vernacular and in English. The program by 1970 was furnished through the Institute of Adult Education of the University of Ghana, and professional courses offered both in classroom settings and by correspondence have enabled adults to earn various technical certificates (Kabwasa and Kaunda 1973 p. 121). Furthermore, the Ghanaian Institute of Languages offers courses in 10 indigenous languages, courses which lead to a translator/interpreter diploma or mastery of techniques of language teaching.

2. Administration and Finance

Until the middle of the twentieth century, the British colonial government built and supervised schools in the Gold Coast, with the colonial governor serving as the highest authority in educational policy making. After the mid-century until the early 1970s, most state-sponsored educational services were administered under the central Ministry of Education, with school finance, supervision, and inspection performed by regional education personnel attached to district education offices. Today, educational affairs are managed under laws passed by parliament and under regulations promulgated by the Ministry of Education (Holmes 1979 p. 33).

Formal schooling is the responsibility of the Ministry of Education, which conducts its affairs under two divisions, those of preuniversity education and of higher education. The Ministry of Labor and Social Services administers adult literacy courses and vocational training outside the formal school. The preparation of curricula for schools is the responsibility of the curriculum research and development division of the Ghana Educational Service under a national advisory committee.

National policy provides for tuition-free education for all students from primary school through university. The government pays the entire cost of teachers' salaries in all types of public educational institutions. However, in primary and middle schools, local authorities have assumed increasing responsibility both in management and finance (Chantler 1971 p. 95). Not only is tuition paid for university students, but board and lodging may be paid as well, and the Ghana Commercial Bank has provided interest-free loans for university students.

By the close of the 1970s, the Ghanaian central government was spending 25 percent of its budget on education, an amount representing 4 percent of the country's gross national product (GNP) (UNESCO 1981, Holmes 1979 p. 33) although this percentage has considerably decreased since then to 1.8 percent in 1981 (UNESCO 1984). This amount is supplemented by foreign aid to support particular projects, such as technical schools.

3. Curricula

As school facilities and enrollment have expanded since independence, there has been neither the time nor the funds to reform curricula to any significant degree, and British textbooks continue to be used. Despite some modification of course offerings in the area of technical and vocational education to adjust studies more to the nation's needs, the educational system generally retains a bias toward traditional academic studies, which dominate the curricula through the first 10 years of compulsory schooling. In the formal school system, almost no adaptation of the curricula to Ghanaian culture and values has occurred, except in civics classes and in the importance that has to some extent been attached to education for the socioeconomic development of the nation.

At the university level, the growth of African studies departments has stimulated renewed interest in the traditional customs and cultures of Africa.

4. Examinations and Certificates

At the end of the 10-year compulsory schooling cycle, consisting of the six-year primary school and four-year middle school, students may take the Common Entrance Examination, which qualifies the relatively small portion who pass to enter secondary school for one year. At the close of basic secondary schooling (the middle school plus one year, or else the five-year secondary sequence that parallels the middle school), students take an examination which earns them a General Certificate of Education Ordinary (O') level. Those scoring high in this first cycle may enter a two-year advanced secondary course and thereby qualify to take the General Examination of Education Advanced (A') level, which can, if their grades are sufficiently high, qualify them for university.

Vocational and technical training, which students can enter after completing either primary or middle school, leads to professional certificates and diplomas in the special fields of study the students have followed.

Higher education institutions offer both undergraduate and graduate degrees in a variety of fields as well as specialist diplomas in such areas of professional education as music instruction, physical education, the special education, and counseling and guidance. The diplomas awarded by universities and colleges are generally recognized by institutions abroad.

5. Educational Personnel

The rapid expansion of schooling in the 1950s and 1960s meant that a great number of unqualified teachers had to be employed, most of them in primary and middle schools. By 1966, around 63 percent of the nation's 50,000 teachers were virtually untrained (Woronoff

1972 p. 185), and qualified teachers from overseas had to be recruited to staff the secondary schools, which had increased in number under the policy of free compulsory education.

To fill the need for properly prepared instructors, additional teacher-training colleges were established in various parts of the country over the 1960s, with enrollment increasing from 4,500 in 1960 to 18,500 in 1970. The number of annual graduates had reached 5,700 by 1969, and the total number of teachers in training equaled the number of untrained teachers already employed. Hence, the teacher-supply system caught up with need, so that the number of teacher-training colleges and their enrollment could be reduced during the 1970s in order to produce only the quantity of new instructors required annually (Kaplan 1971 p. 171). By the beginning of the 1980s, teacher-college enrollment was down to 11,300 (Reams 1981 p. 2).

Candidates preparing as primary-school teachers complete either a four-year course after they have graduated from middle school or a two-year course after completing secondary school. Teachers for secondary schools and the teacher-training colleges are educated at the University of Cape Coast, which also organizes upgrading courses and seminars for inservice teachers (Holmes 1979 p. 35).

6. Future Prospects

The marked expansion of schooling in Ghana since independence attests to both the government's and the people's recognition that education is a key to socioeconomic progress. And while widespread primary schooling is seen as essential to overcoming absolute poverty in the nation, the country's development planners note as well that if Ghana is to become increasingly self-sufficient in a modern industrialized world, then secondary and higher education must be expanded significantly and made more relevant to the nation's personnel needs. Thus, a central task to which the nation's educational leaders need to address themselves in coming years is that of liberating the educational system from such heavy dependence on traditional British schooling practices. Curricula and an educational structure better suited to Ghanaian society will be required if the welfare of the general Ghanaian population is to be improved.

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over the last quarter century. The gross enrollment ratios for 1980 are as follows: males, 104 and females, 103, for primary education; males 88, and females 67, for secondary education; and males 22, and females 14, for tertiary education.

Primary education has been virtually universal for many years and, as shown in Fig. 1, its fluctuations reflect purely demographic conditions. (There has been a sharp fall in births since 1960.) Nursery enrollments have increased constantly in spite of the decline of births, since preschool education still accounts for only a small fraction of the relevant population group.

The secondary and university enrollment trends in Fig. 1 appear to be "broken" after 1975, a fact that is entirely explained by the recent educational reforms (see below). Enrollments in lower secondary schools have increased sharply because this level of education has become compulsory. Enrollments in upper-secondary general and higher educational levels have been checked because of the emphasis of the reform in breaking the "one way" system from secondary general into the universities and channeling of students towards technical-vocational courses at the upper-secondary and post-secondary (although nonuniversity) level.

5. Administration

The management of the Greek educational system is highly centralized, a fact not to be dissociated from its original organization according to French and German models. All decisions affecting school and university curricula, appointment of teachers, professors, assistants and, of course, examinations stem from the Ministry of Education in Athens. The Center for Educational Studies and Inservice Training (KEME) has an advisory role mainly in the development of curricula in schools.

The country is administratively divided into 15 regions each headed by a supervisor responsible for primary and secondary schools. The regions are further subdivided into 240 districts headed by inspectors who are mainly responsible for the correct application of the curriculum. Universities are self-governed by a faculty-elected senate although they have to adhere to the

Table 2
Public recurrent expenditure on education as percent of the state budget and gross domestic product (GDP)^a

Year	Percent of state budget	Percent of GDP
1961	7.5	2.8
1965	8.6	2.8
1970	7.1	2.7
1975	7.9	2.9
1979	10.7	3.2 ^b

^a Data obtained from state budget of the respective years and national accounts statistics ^b 1977

Table 3
Share of education in the state investment budget^a

Year	Education share (%)
1961	2.4
1965	6.9
1970	7.8
1975	6.4
1979	14.2

^a Data obtained from state budget of the respective years

stipulations of a 1932 law and virtually all decisions have to be ratified by the Ministry of Education.

6. Finance

According to the Greek Constitution education is the responsibility of the state and provided free of charge at all levels. Although private higher education is constitutionally prohibited, there exists a substantial component of privately financed courses from the nursery to university preparatory level.

As shown in Table 2, public recurrent expenditure on education as a share of the state budget has remained steady at the 7 to 8 percent mark until very recently, when it has reached 10 percent. A similar recent increase has also been observed in the percentage of GDP devoted to education, which now stands over the 3 percent mark.

On the other hand, the share of education in the state investment budget has steadily increased in the last 20 years as shown in Table 3. The investment expenditure has been mainly used on secondary-school buildings and the creation of postsecondary nonuniversity institutions.

Official statistics on private educational expenditure are very scanty. According to the National Accounts Statistics of the Organisation for Economic Co-operation and Development (OECD) the private "consumption" expenditure on education in 1978 was 1 percent of the GDP (whereas the equivalent government expenditure was 2.4 percent).

An indirect way of assessing the magnitude of private expenditure on education is the relative enrollment in

Table 4
Enrollment in private and public schools by educational level, 1974^a

Educational level	Private		Private-to-public ratio
	Private	Public	
Nursery	17,380	90,978	0.19
Primary	76,922	848,573	0.09
Secondary	57,269	427,787	0.13
University ^b	30,436 ^c	95,392	0.32

^a Data obtained from National Statistical Service of Greece 1974
^b 1976 ^c Greek students abroad officially receiving foreign exchange from the Bank of Greece

Table 5
The percentage allocation of state budget by level of education^a

Year	Primary	Secondary	Postsecondary nonuniversity	University
1961	71.5	21.7	—	6.8
1965	61.5	25.3	—	13.2
1970	57.6	27.7	1.0 ^b	14.7
1975	47.4	27.7	2.8	22.1
1979	43.7	36.1	3.3	16.9

^a Data obtained from state budget of the respective years ^b 1971

private versus public schools. As shown in Table 4, the private element is very strong at the preschool level. Also, when the number of mainly family-supported Greek students studying abroad is taken into account, the ratio of private-to-public higher education is of the order 1:3.

Another major element of private educational expenditure in Greece is the so-called *frontisterio*; that is, a cram course mainly attended by secondary students and university candidates because of a stringent system of examinations. (It is now almost indispensable for a secondary school student or graduate to attend one, two, or even three years of preparatory courses in order to succeed at the university entrance examinations.)

As in every other country that has achieved universal primary education, an increasing share of the educational budget is devoted to the postcompulsory levels of schooling. As shown in Table 5 a relatively fast growth of the share of the different types of budget devoted to technical nonuniversity schools has been observed in the last decade.

The average cost per student is estimated as shown in Table 6 where one should note the sharp differences between general and vocational curricula at the same level of education, and between different types of university faculties.

Table 6
Average cost per student 1977^a

Educational level and type	Cost per student in drachmas
<i>General</i>	
Primary	8,551
Secondary	9,258
University (average)	31,110
—Department of Humanities	32,157
—Department of Engineering	77,034
—Department of Economics and Political Science	9,911
<i>Technical-vocational</i>	
Lower	6,059
Secondary	13,963
Higher (nonuniversity)	21,980

^a Data obtained from Psacharopoulos and Kazamias (1978)

7. Teacher Education

Primary school teachers are trained in special two-year colleges, called pedagogical academies, open to secondary-school graduates. An "excellent" grade in secondary school guarantees admission without examination to a teacher-training college.

Secondary-school teachers must have a university degree in the subject they intend to teach. In recent years university professors have been mainly appointed after a doctoral degree and/or career in a foreign university. Table 7 presents the stock of teachers and the pupil/teacher ratio by level of schooling. It is recently being considered that the teacher-training colleges will obtain university status. A committee has been appointed by the new government (1981) to study the establishment of schools of education at the universities, and thus abolish the two-year training courses.

Besides these pedagogical academies (2,258 students enrolled in 1979), there exist schools for kindergarten teachers (enrollment 1,133), schools for home economics and physical education (enrollment 1,013), and schools for the training of personnel in technical and vocational education (enrollment 2,840).

8. Curriculum and Teaching Methodology

The responsibility for the development of the curriculum up to secondary level lies with the Center for Educational Research and Inservice Training (KEME). This center has an advisory role to the minister of education who ensures that the universally adopted curriculum is followed by all schools in the country, including private ones. University courses are mainly designed by the professor of the relevant chair. The dominant method of teaching is formal lecturing.

Three main recently debated issues regarding the curriculum are: teaching and textbook writing in *demotiki* (everyday spoken language) or *katharevousa*; the teaching of ancient Greek works from translation; and

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Greece

G. Psacharopoulos

Greece occupies the extreme of the Balkan peninsula and many islands in the southeast tip of Europe. The country is dominated by high mountain ridges, the few plains being an exception rather than the rule. Following the War of Independence from the Turkish Empire, Greece emerged in the 1820s as a country of 48,000 square kilometers and steadily grew to its present size of 132,000 square kilometers (48,590 square miles) because of the addition of new territories. The geographic expansion of the country and the increased number of schools added a heavy weight to a centrally controlled educational administration in Athens.

1. Background

The combination of territorial expansion, the disastrous military events of the 1920s in Asia Minor and rural-urban migration have drastically changed the size and composition of the Greek population in this century. Thus, the 753,000 total population of Greece in 1828 grew to 1 million by 1853, 1.5 million in 1850, 2.6 million in 1907, 5.0 million in 1920, 6.2 million in 1928, 7.6 million in 1951, 8.4 million in 1961 to an estimated size in 1982 of nearly 9.5 million. The composition of the population changed drastically in half a century from mainly rural (62 percent in 1920) to urban (53 percent in 1971). In particular, the population of the greater Athens area grew from about 32,000 in 1848 to 180,000 in 1896, 803,000 in 1928, 1.4 million in 1951, 2.5 million in 1971, to a present estimate of over 3 million.

The intensive rural-urban migration that took place in the last quarter century is linked to the country's educational system in at least two ways. First, one of the main causes of migration out of the villages was the lack of adequate educational facilities in the place of origin. Only a few years ago, for example, a family residing in one of the Aegean islands had to move to Athens or another urban area for their 12-year-old children to be able to enroll in school. Second, one of the consequences of outmigration is that it is now uneconomic to provide schooling in remote areas of the country because of the lack of clientele to fill a class of a normal size. Also, migration into urban areas created extreme pressure for school facilities in the cities, many of them now operating on a double shift basis.

The fast urbanization of Greek society is reflected in a rapidly changing occupational structure. Thus in the decade between the 1961 and 1971 population census the share of farmers in the active population fell from 53 to 41 percent, whereas the share of those in the liberal and technical professions rose. A parallel development has been observed in the share of university-qualified persons in the population at large and in the labor force in particular. This share has almost doubled between 1961 and 1971. In spite of the spectacular rise in the stock of educated persons, it is estimated that about 10 percent of the population are illiterates (mainly among the aged in the countryside).

The changes described above have their counterpart in a rapidly shrinking share of agriculture in the gross domestic product (GDP) and a rise in manufacturing and services. The primary sector (agriculture) today accounts for about 17 percent of GDP, whereas the share of manufacturing is 20 percent. The country has had a relatively fast rate of economic growth in real terms in the post-Second World War period, although some deceleration and severe inflation (of the order of 25 percent) have recently been observed. One chronic

Table 1
Structure of enrollment, 1977^a

Education level and type	Students enrolled (in 1000s)
Preschool	118
Primary	939
Secondary	562
lower	327
upper	235
Technical-vocational	155
lower	54
middle	77
upper	24
Postsecondary/nonuniversity	28
technical-vocational	24
teacher training	4
University	95

^a Data obtained from National Statistical Service of Greece 1977, data refer to public and private schools

weakness of the Greek economy is a balance of payments problem, exports being only one half of imports. A recent major development in the country's economic scene is its entry into the European Economic Community (EEC), which is bound to have major implications for the educational system in terms of degree equivalence, study abroad, and migration of highly qualified personnel.

Greece has had a very rich political and military history in this century. Besides the two World Wars, there was a severe internal conflict in the late 1940s and a major Turkish incident over Cyprus in 1974 which is still echoed in present days. The regime has alternated between constitutional monarchy, military coups, dictatorships, and a presidential republic. Although, as a rule, a right-wing government had been in power for most of this century, a socialist party came to power in the 1981 elections. The long dominance of conservative regimes, and especially the 1967-74 dictatorship, had a strong influence on the educational system, as described in the following section.

2. Goals of the Educational System

These are globally stated in the country's Constitution and elaborated in the introduction of each respective bill when submitted to parliament. According to Article 16 of the 1975 Constitution, "the goal of education is the moral, intellectual, professional, and physical development of their national and religious consciousness so that they become free and responsible citizens." Emphasis on a noncolloquial language (*katharevousa*) and the "Greek-Christian civilization" have been dominant in the formal school curriculum until very recently. At the same time, the role of the educational system as a producer of skilled personnel for economic development has been repeatedly emphasized as a rationale for the creation of technical schools and related training institutions.

3. The Structure and Size of the Educational System

The origins of the structure of the Greek educational system can be traced to Quizot's 1833 French Elementary School Law, the Bavarian system of secondary education, and the early twentieth century German university system. In spite of a series of educational reforms in 1929, 1959, 1964, and 1976, elements of the above imported systems are still found in the present Greek school structure.

Until the last reform of 1976 the system consisted of a 6 + 6 + 4 sequence of cycles corresponding to six years of compulsory primary education, six years of secondary (gymnasium) and a university course, usually of four years. One of the main features of the 1976 reform has been the inclusion of the three years of the secondary gymnasium to the compulsory schooling cycle.

In addition to the above basic structure, there exist one- to two-year kindergarten schools, teacher-training colleges and a variety of technical schools at the secondary and higher (although not at the university) level.

The structure of technical training deserves special mention. The 1976 reform abolished technical education at the lower level. Technical education at the middle (secondary) level is given in the three-year lycea that specialize in a technical-vocational curriculum. Graduates of this type of school can proceed to the two- to three-year Centers for Advanced Technical and Vocational Training (known as KATEES) which do not have university status.

One of the main purposes of a 1977 reform has been the channeling of more students to technical and vocational education because of the fear that the country was producing too many graduates "unprepared for productive life." The ease with which secondary technical-school graduates can cross over to academic university faculties is an issue still being debated among Greek educational policy makers.

4. Enrollments

Table 1 presents the level of enrollments by main level of education and Fig. 1 the evolution of enrollments

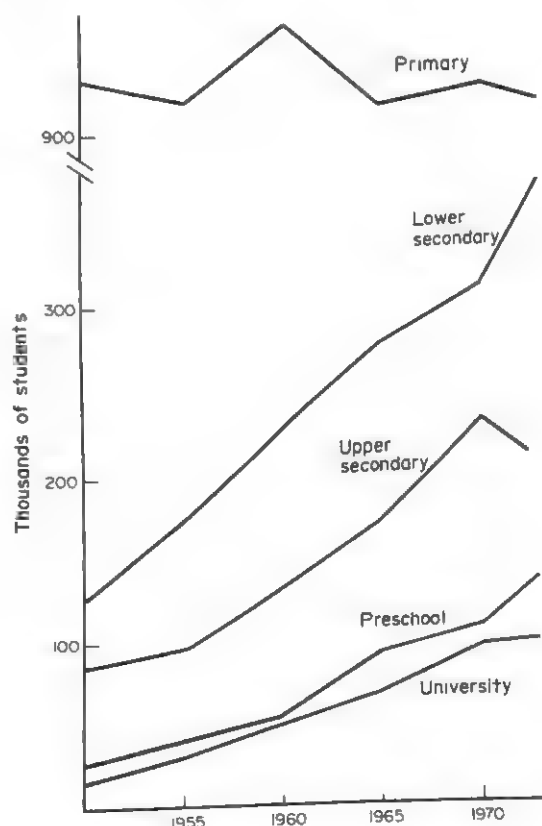


Figure 1
The trend of students by level of education

Table 7

Stock of teachers and the pupil-teacher ratio by level of education—state schools, 1976^a

Educational level	Stock of teachers	Pupil-teacher ratio
Preschool	3,839	26
Primary	29,665	29
Secondary—general	17,179	28
Teacher training	282	13
University		
—main teaching staff	1,128	84
—main staff and assistants	6,125	16

a Data obtained from OECD (1980)

the introduction of more science, mathematics, and technical subjects.

9. The System of Examinations and Selection

There were two basic examinations in the mainstream of the Greek educational system, the performance in which determined promotion to the next level: one at the end of the six-year primary school and one at the end of the six-year secondary-school cycle. When the length of compulsory education was increased to nine years in the late 1970s, the first examination determining further progress of the student was shifted to the end of the three-year gymnasium.

University entrance was in the past determined by a set of special examinations to each faculty for which an applicant sought admission. The higher education entry system was consolidated by means of a national examination called Panhellenic examinations, in specific subject "cycles." In 1981, the government announced that the Panhellenic examinations would be abolished and the main criterion for selection would be student performance in the lyceum (last three years of secondary school).

Recent data indicate that of 100 students who enter primary school, 95 will complete it, 63 will enter secondary education, 33 will graduate from the six-year secondary cycle, and 11 will be admitted to university.

Entry to the university is particularly difficult, with less than one-fifth of the applicants gaining access. As a result of the *numerus clausus*, study in foreign universities has been the safety valve that released the high pressure of social demand for university education.

10. Educational Research

Greece has been low on all international indices of research in general (such as the percent of the gross national product devoted to it) and educational research in particular. Although the Center for Educational Studies and Inservice Training is officially charged with this task, everyday administrative demands on its personnel to handle a complex legislation following the

recent reforms (see below) has prevented it from being fully engaged in research. Other bodies engaged in some kind of educational research are the National Center for Social Research Studies (EKKE), the Center for Planning and Economic Research (KEPE), the Ministry of Education itself and many isolated researchers in Greece and abroad (for the output of such research, see the Bibliography at the end of this article).

11. Educational Reforms: 1970s–1980s

The late 1970s have been years of intensive educational reform in Greece, the origins of which can be traced back at least 20 years. A committee on education was formed in 1958 to recommend changes in an educational system that was deemed to be not relevant enough to the demands of modern society and economic growth. As a result, the six-year gymnasium was broken into two three-year successive cycles, technical and vocational education was organized into lower, middle, and upper schools, and a school for teachers in technical and vocational education was established (SELETE).

In 1964 the central government of George Papandreou instituted a set of policies mainly aimed at democratizing the educational system. The reforms included the abolition of fees at all levels of education; the abolition of examinations from primary to secondary school; the division of secondary education into a non-selective three-year gymnasium, followed by a selective three-year lyceum; the introduction of a *baccalauréat*-equivalent examination for those who desired entry into higher education, the use of "*demotiki*" (everyday) language in primary school; the teaching of ancient Greek literature from translation in the gymnasium and the upgrading of teacher-training colleges from two- to three-year institutions. In 1969, a law was passed instituting two-to-three-year nonuniversity technical colleges (KATEES).

Following the collapse of the military junta in 1974, sweeping legislative activity started taking place aimed at drastically reforming all levels and types of the country's educational system. The rationale of the reforms was that Greece was lagging behind other European countries in terms of modernization and especially, in technical skills required for economic development and accession to the EEC, a goal to be realized five years later by Constantine Karamanlis. The major provisions of the legislation were as follows. At the lower level, compulsory schooling was extended from six to nine years. At the secondary level, the upper three-year cycle was divided into general and technical lyceums of "equal status." The central motivation of this split was to entry into the KATEES rather than the universities, as it was middle- and upper-level technicians that were in scarce supply in the Greek economy. At the university level there have been several drafts of an outline law (*Nomos Plaisio*) aimed at modernizing the organization and structure of higher education over the provisions of

a 1932 law (that governed the system until then) especially to abolish the "chair" and replace it by the "department." However, because of strong resistance from all parties concerned (i.e., students, professors, and assistants) this outline law was never presented *en bloc* to parliament.

In late 1981, the newly elected socialist government of Andreas Papandreou promised sweeping reforms of the educational system in order to take care of the problems mentioned below. However, at the time of writing, no draft bill had yet been formulated.

12. Major Problems

At the lower level, the 1976 Act of extending compulsory education from six to nine years is creating a strain on the already crowded gymnasiums, especially in the big cities. At the secondary level there exists a "roof problem," many schools operating on a morning-afternoon double shift basis. The division of the academic and technical areas to be of equal status has not been as successful as intended because of the strong social demand towards academic subjects and the universities. At the higher level, the nonuniversity technical colleges are a second choice among secondary school graduates. Only a small fraction of the strong social demand for higher education is satisfied by domestic university places. Hence, there is a tendency for study abroad, especially at the graduate level. Masters and doctorate programs are virtually nonexistent in Greece. Although education is constitutionally provided free of charge there exists a vast number of private institutions, some of doubtful quality, catering to those who wish to enroll in them, especially for preparing students for the highly selective university entry examination.

The universities face severe internal problems with nonattendance of lectures by the students, very little research taking place and a lack of flexibility for innovative courses because of the "chair" system.

Finding the solution to these problems is not an easy task and it remains to be seen whether the recent entry of Greece into the EEC will alleviate them (e.g., by consolidation and self-restraint for survival in a competitive environment) or make them worse (e.g., by further exodus of students and talented personnel).

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Guadeloupe and Martinique

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Guadeloupe and Martinique are two of the three French overseas departments located in the western hemisphere (French Guiana is the third). Guadeloupe and Martinique are both part of the chain of Lesser Antilles Islands in the Caribbean Sea southeast of Puerto Rico. Their territories are small, with Guadeloupe's two islands making up only 1,780 square kilometers (697 square miles) of land area and Martinique only 1,100 square kilometers (425 square miles).

Both departments have small populations and low growth rates. In 1982 there were 314,800 people in Guadeloupe and 328,566 in Martinique, with an annual growth rate of less than 1 percent (0.7 percent in Guadeloupe and 0.8 percent in Martinique). The ethnic mix in each society is also similar. In both territories, 90 percent of the populace are Negro or mulatto, 5 percent Caucasian, and 5 percent East Indian, Lebanese, or Chinese (United States Central Intelligence Agency 1982 pp. 90, 152). Roman Catholicism is practiced by 95 percent of the people, while the remaining 5 percent follow Hinduism or indigenous African religions.

Although French is the official language, all native islanders speak a version of Creole consisting of European and African components. In recent years, Creole has attracted linguistic and anthropological attention and has experienced a remarkable growth in political and trade union circles as it has become closely linked to independence movements, particularly in Martinique (Burton 1978 pp. 34-35).

The standard of living in the two departments is the highest in the Caribbean, with annual per capita incomes at the beginning of the 1980s of US\$2,630 in Guadeloupe and US\$3,570 in Martinique. Both economies are mainly agricultural, with emphasis on bananas, sugar, and coffee. However, some instability in the economies is developing as the loss of jobs due to mechanization in agriculture is not being counterbalanced by the creation of new jobs. In 1974, on Martinique 25 percent of workers were either unemployed or seriously underemployed (United States Department of State 1974 p. 4). The limited amount of industry is devoted to producing goods for local consumption.

The abject poverty typical in certain Caribbean islands is absent in the French West Indies, mainly because the economies of the islands enjoy financial support from the French government, which seeks to provide the same social and economic advantages in the overseas departments as are available in the metropole.

Overseas departments are an integral part of the French Republic. Because of the constant opposition to departmentalization from Guadeloupe and Martinique, and owing to the policy of decentralization of the present administration, the French Government is now represented in the islands by a government commissioner and two local councils with greater power: the general

council and the regional council. Each overseas department continues to have three elected representatives in the French National Assembly and two in the Senate of the Republic in Paris. However, after some violent actions by the Alliance Revolutionnaire Caraïbe (1983/84), the French government reinforced their military forces in the overseas departments.

1. Structure and Size of the Educational System

A major aim of education in the French overseas departments is to promote assimilation of the populations into French culture. In this sense the aim of education in overseas departments is the same as that in France, to raise the young to be "perfect Frenchmen." Thus, the structure and content of the educational systems of Guadeloupe and Martinique are identical to those in France, with little if any attention paid to the islanders' geographical setting and African ancestry.

The concern of the French government to provide schooling opportunities equal to those in France has meant that public education in the islands is free and compulsory for 10 years, furnished to children from age 6 to age 16 in both public and private institutions. Some schools are coeducational, while others are single sex.

The educational system in both of the Caribbean departments begins with a three-year preschool that is assigned the important role of orienting young children to the French language and to the social learnings that will enable them to succeed with the French curriculum when they enter primary school.

The six-year primary school is followed by seven years of secondary education that is divided into two segments, a four-year lower-secondary cycle and a three-year upper-secondary cycle. Following the first four years of secondary schooling, students have the option of obtaining a *brevet de collège* diploma that qualifies them to enter the work world. The upper-secondary cycle ends with the *baccalauréat* examination, as in France, with students who succeed in the examination receiving the *baccalauréat diploma*, qualifying them to apply for university entrance.

Higher education is rather limited in the French West Indies, with most university studies aimed at preparing students for advanced professional certificates. In Guadeloupe, the *Centre Universitaire Antilles-Guyane* is composed of colleges of arts, law, and physical and natural sciences. In Martinique, there are colleges of economics and of law. Well-qualified candidates are encouraged to travel to France to obtain more advanced degrees, and the French government provides generous financial assistance to support West Indians in such overseas study.

Most of the growth in schooling opportunities in the two departments has occurred in very recent decades,

particularly in the public-education segment. Historically, the first Western-style education was offered by French missionaries. However, progress was slow due to the small populations in the islands and a limited economic base for the two societies. After the First World War, both state and mission schools forged ahead in enrollment. However, growth was slowed during and immediately after the Second World War, when France faced war conditions and subsequent problems of reconstruction. Not until the late 1940s, when the two territories were accorded department status, did both primary and secondary schooling start to develop consistently.

In Martinique, by 1964 primary enrollment had reached 76,467, increased by 16 percent by 1969 to 88,818, then diminished slightly to 88,024 in 1971. During the early 1970s, over 94 percent (264) of the primary schools were public, while the remaining 16 schools were private. By 1977, the number of primary schools had increased to 310 but enrollment had diminished, reaching 50,142 by 1982. Secondary schools in the early 1970s totaled 52, with 43 of them public (83 percent) and 9 private (17 percent). By 1982, secondary enrollment had reached 44,000. In Guadeloupe, by 1978, 312 primary schools and 52 secondary schools had been established with enrollments of 53,798 and 46,692 respectively. By 1982 the enrollment figures had increased to 62,000 and 48,000 respectively (Institut National de la Statistique et des Études Économiques 1982). By 1982, 17,000 in Guadeloupe and 18,931 in Martinique were in preschool education.

Except in the most rural areas, the age distribution by grade levels in schools is nearly the same as in metropolitan France, although the proportion of repeaters at each grade level in the islands is somewhat higher than in France so that there are more overaged students in both the primary and secondary schools in the West Indies.

Higher education enrollment (for the *Université Antilles-Guyane*) was 3,800 for Guadeloupe and 2,100 for Martinique in 1981.

The success of the islands' basic educational system since the 1950s is reflected in the general literacy rate, which exceeded 70 percent by the early 1980s (United States Central Intelligence Agency 1982 pp. 90, 152).

One aim of public education in the French West Indies is to provide professional or vocational training to all children and adults. In Martinique, by the early 1970s there were eight public and private institutions offering technical courses. Vocational-education opportunities have increased significantly, as both departments have established a variety of technical-education colleges (*collèges d'enseignement technique*) to parallel the liberal-arts curriculum of the secondary *lycées*. Courses in the technical colleges include home economics, agriculture, mechanics, commercial subjects, crafts, and others.

The Ministry of Labor in each department, in collaboration with the Martinican and Guadeloupean

Association for Professional Education, trains adults in bookkeeping, typewriting, electrical installation and repair, and hotel services for the islands' important tourism industry. In addition, courses are offered to medical professionals in public health practice, while the army provides training in various technical skills (*Notes et études documentaires* 1974 p. 28).

Correspondence courses offered through radio and television are becoming increasingly popular, and refresher courses (*cours de perfectionnement*) are provided in vocational skills for employees who request inservice upgrading opportunities.

2. Administration and Finance

Until 1973, the islands' systems of education were controlled by a French administrative district, the Academy of Bordeaux, and were directed locally by a vice rector. Subsequently, the West Indies assumed the status of an autonomous academy ruled by a rector residing in Fort-de-France, Martinique. The rector, as the regional director of education, is responsible for all teaching services in the region, and he serves also as chancellor of the university. As in the other French academies, inspectors assist the rector with youth activities and sports, medical, and social services, and educational and vocational guidance.

Community participation is encouraged, with public educational decrees sent to representatives of teachers' unions and parents' associations for their reactions (Holmes 1980 p. 79).

Local needs for educational finance cannot be adequately met by the state allocation raised through local taxes, so that the French government continually adds to the funds for education in the two departments.

3. Curricula

The Ministry of National Education in the French West Indies sets the curricula and issues instructions to teachers on how to implement the program. However, teachers are allowed to select the textbooks they wish to use. The subjects studied are the same as those in France. In primary school, children learn reading and writing in the French language, mathematics, moral and civic education, science, history and geography, crafts, and physical education. At the secondary level, several tracks of studies are available—literature and languages, economics and social sciences, natural sciences and mathematics, and technical and industrial subjects (Holmes 1980 p. 80).

During the 1980s, some modest efforts have been made in Martinique and Guadeloupe to adapt both academic and vocational curricula to life in the West Indies rather than focusing so heavily on life in Europe. As part of this process, courses on Aimé Césaire, Martiniquais political figure, poet and dramatist, have been introduced into the curriculum. However, the matter of maintaining French as the language of instruction

priorities; this is the most developed nonformal educational program;

- (b) the Adult and Literacy Board;
- (c) the Agricultural Services Directorate (DIGESA), which provides training and technical assistance for small farmers and aims at increasing agricultural production and at benefiting the rural population;
- (d) community development, which undertakes non-school education in communities, providing literacy and domestic skills;
- (e) radio schools, which provide basic-education programs for rural areas; some 10 radio stations broadcast programs in vernacular languages;
- (f) paramedical-staff-training programs, run by the General Directorate of Health Services; and
- (g) educational correspondence courses for adults.

The mass communication media perform a major role in the preparation and transmission of nonformal educational programs. In 1980, there were 88 radio stations, 5 television channels, 9 newspapers, more than 100 cinemas, 9 museums, about 10 libraries of some importance, and 20 theater companies (4 professional).

2. Administration and Finance

The Ministry of Education is in charge of formulating and directing educational policy. It plans and controls the measures needed to guarantee an adequate functioning of the national educational system and promotes community participation in educational development. The Ministry of Education is composed of planning, coordination and advisory offices, executive offices, and services and administration offices. The execution of the ministry's plans and work programs is decentralized and takes into account the geographic and socio-economic conditions of the country's different regions. For this purpose the ministry has created regional educational directorates.

The interministerial body in charge of administering and executing the national educational development plan is the National Commission for Education, in collaboration with the ministers of agriculture, national defense, economy, public health and social welfare, and the general secretary of the National Council of Economic Planning. A second body, the National Board for Nonformal Education, coordinates the activities of those state institutions concerned with nonformal education and promotes specific projects; it is chaired by the vice minister of education and composed of the manager of the Technical Institute of Training and Productivity (INTECAP), the director of community development, the general director of the Agricultural Services Directorate (DIGESA), the general director of nonschool education at the Ministry of Education, the chief of the educational section of the army, the general director of health services, and a delegate from the general secretariat of the National Council for Economic Planning.

Guatemala also has private centers offering education at all levels. In order for their courses to be officially recognized these centers must implement the plans, programs, and rules laid down by the ministry.

Finance for educational development comes from funds assigned in the national budget, resources set aside by the auxiliary education boards and by the municipalities, assets controlled by the Ministry of Education, and legacies, subsidies, and donations made by private organizations and individuals.

A constant growth in the education budget took place between 1944 and 1980 but two important facts can be observed: first, the growth figures are deceptive if one takes into account the inflationary process in the country; and second, at the beginning of the period, 1944-45, the budget was exceedingly low. From then onwards, a rapid growth in the absolute figures occurred, corresponding particularly to the revolutionary decade (1944-54). Since then this growth in the absolute figures has been maintained, but there has been a decrease in the proportion of the overall budget assigned to education (Table 1). The 1979 budget was

Table 1
Education budget, 1944-81

Year	Education budget (millions of quetzals)	%age of national budget
1944-45	1,594,100	
1950	7,697,600	9.5
1955	9,864,300	16.2
1960	13,337,300	13.9
1965	20,462,100	12.4
1969	30,542,899	13.6
1974	53,200,000	15.2
1979	123,900,000	15.0
1980	140,900,000	11.8
1981	156,700,000	11.0
		10.6

allocated as follows: Superior Directorate of the Ministry of Education, 46.74 percent; General Directorate of Education, 1.89 percent; Directorate of Primary Education, 37.89 percent; Directorate of Secondary Education, 11.28 percent; General Directorate of Culture and Arts, 1.95 percent; and Ministry of Education publishing activity, 0.25 percent.

In 1980, the University of San Carlos's budget was 30 million quetzals including incomes from students' fees, donations, and subsidies. The private universities depend on their own funds, which come from contributions from their members and from students' fees.

3. Supply of Personnel

Teachers in charge of preprimary education are called kindergarten teachers. Primary-school teachers are classified as urban primary, rural primary, physical education, or music teachers. Secondary-school teachers are classified according to their specialization in the basic sciences and humanities.

Primary- and secondary-school teachers are trained in one of the following institutions: a normal school for kindergarten teachers, 5 rural regional normal schools, 10 urban normal schools, a school for training secondary-school teachers (run by San Carlos National University), and various programs for training secondary-school teachers run by the private universities.

In 1980, there were 1,700 kindergarten teachers, 24,242 urban and rural primary-school teachers, and 8,604 secondary-school teachers. The average teacher/pupil ratios in 1980 were 1:29 in preprimary, 1:34 in primary, and 1:18 in secondary schools. Considering that only 10 percent of children between 5 and 6 years of age have access to kindergartens and that more than half of children between the ages of 7 and 14 do not attend primary school, there is clearly a lack of teachers. This educational deficit is also seen in secondary and higher education. To make good the deficit, more than twice the number of existing teachers would be necessary.

In San Carlos National University, there are 2,400 faculty members but only 20 percent have half- or full-time contracts. The rest are part-time lecturers.

4. Curriculum Development and Teaching Methodology

Since 1945, the Technical Council on Education has been in charge of curriculum planning and development. In 1956, the Division of Curriculum and Learning Processes was created in the Interamerican Cooperative Service of Education, an advisory office of the Ministry of Education. In 1962, this division was transformed into the Educational Planning and Research Department (ACEN). A year later its functions were absorbed by the Office of Integral Education Planning (OPIE), which

planned the educational development of the country for over 12 years. In 1976, the Sectorial Unit of Educational Planning and Research (USIPE) was created with a broader range of functions than the previous office.

According to prevailing legislation, study plans and programs must establish the medium-range and immediate objectives of teaching, and they must be periodically and systematically evaluated by means of seminars and other proceedings that the Ministry of Education organizes. These plans and programs, both in their technical and in their administrative aspects, have been decentralized and take into account the different regions of Guatemala.

Educational programs in the fields of science and technology must be oriented to the production capabilities of the country and to the improvement of Guatemala's socioeconomic conditions and the people's overall cultural outlook.

Private education is governed by the principle of academic freedom, but must follow official plans and programs in order to obtain official recognition for its courses.

Teaching methods are suggested and supervised by the Ministry of Education through circulars, short courses, and instruction organized by educational supervisors. School texts have to be approved by the technical council in order to appear in the official lists; teachers can, however, expand this bibliography as long as the selected titles are in line with prevailing legislation and the educational policy outlined by the state.

In San Carlos National University, the curriculum for the various professional careers are developed by ad hoc commissions and must be approved by the Higher University Council on the basis of reports submitted by specialists. The curricula for professional careers in the private universities are proposed by the respective academic units and presented to the Council for Private Higher Education, at which the minister of education presides.

5. Examinations, Promotion and Certification

Legislation has established that evaluation should be a systematic and permanent process. It aims to establish the quantitative and qualitative value of education and is carried out in specified periods of the school year (which consists of 10 months' teaching activities, with a minimum of 180 effective school days, plus holidays). Examinations in preprimary, primary, and secondary schools are held twice a year, at the end of the first and second semesters; the latter examination determines promotion to the following grade.

Study certificates are awarded by the directors of the educational centers and state the marks obtained in the respective evaluation reports. The accreditation of studies and diplomas in the nonformal sector is carried out by the respective general directorates. The qualifications obtained at the secondary stage of diversified studies, as teachers, skilled accountants, high-school

continues to be an issue of debate, for nationalist-inclined local teachers believe that the children of the West Indies should be taught in Creole instead of in French, since they believe French alienates children from their heritage. For many political activists who wish the islands to become independent, "the destiny of Creole is linked to the future development of the (West Indian) people" (Lucrece in Burton 1978 p. 35).

4. Supply of Personnel

In the French West Indies, most primary and secondary teachers are recruited and trained in the islands. Teacher education is provided at teacher-training colleges (*Écoles normales*) located in both Martinique and Guadeloupe. In order to upgrade experienced teachers' knowledge of child development and methods of instruction, the governments provide special funds to support both short-term and long-term inservice courses.

5. Future Prospects

As noted earlier, the structure of the educational systems of Guadeloupe and Martinique is essentially the same as that of France, with very little adaptation to the special needs and conditions of West Indians. Limited funds and a shortage of highly qualified personnel stand as major obstacles to effecting educational change. A further barrier to change is the attitude of the "departmentalists," those residents of the islands who feel

comfortable with the curricula imported from the metropole.

However, West Indians who consider themselves "independentists" are striving to liberate the islands politically and culturally from such heavy dependence on France. Unless such antidepartmentalists can achieve their political goals and thus gain control over decisions about educational structure and purpose, it is unlikely that significant changes will occur in the educational systems in the foreseeable future.

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Guatemala

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Guatemala is the northernmost of the Central American republics, bordering on Mexico in the north and west; the Gulf of Mexico, Honduras, and El Salvador in the east; and the Pacific Ocean in the south. It has a land area of 108,889 square kilometers (42,031 square miles).

In 1980, the country had a population of 7.2 million. The most important cities are Guatemala City (the capital) with 800,000 inhabitants, followed by Quetzaltenango, Escuintla, Chiquimula, and Puerto Barrios. Average population density is 67 inhabitants per square kilometer. Of the total population, 39 percent are classified as urban, and the rest as rural. Annual demographic growth is estimated at 2.9 percent, and the birth rate at 9.2 per 1,000 inhabitants (1978). Infant mortality is high: of every 1,000 live births, 69.2 children die. The average life expectancy is 57 years.

More than 20 languages are spoken, principally vernacular languages of the Maya-Quechés groups. These have been classified by the Indigenous Institute of Guatemala into seven groups, as follows: Quiché, Mam, Pocoman, Chol, Maya, Caribbean, and Spanish-Kekchi. These languages are spoken by 44 percent

of the population, and nearly half can be considered monolingual and not conversant with Spanish, which gives rise to a very complex educational problem. According to the 1974 census, 54 percent of the population is illiterate. Illiteracy is concentrated in the most poverty-stricken peasant sectors.

Although agriculture is the dominant activity, since 1979 growing importance has been given to mining, for example, nickel, and drilling for oil, which has resulted in the diminished output of other economic sectors. Guatemala has been an oil-exporting country since 1980, when its first load of 120,000 barrels of crude oil was sent to the United States.

Guatemala has a president and a vice president, who head the government's executive branch, a unicameral legislative congress with 61 deputies, and a judicial branch comprising the Supreme Court and its respective appellate divisions. Public administration is exercised by 10 state ministries, each with a general directorate. Departmental government is exercised by departmental governors appointed by the executive, and municipal authority is entrusted to popularly elected mayors. In

Guatemala, there are 326 municipalities, 28 cities, 29 towns, 266 villages, 2,486 small villages, and 4,400 hamlets.

In 1982, Guatemala suffered a social, economic, and political crisis fueled by ideological, political, and military conflicts. These seem to have originated in the need for socioeconomic change to increase social welfare and promote respect for human rights. As of March 23, 1982, the 1965 (Republican) Constitution was suspended as a result of a coup d'état.

The objectives of the national educational system are set out in the laws of the republic. The 1965 Constitution stated that the main aims of education were overall personality development, physical and spiritual improvement, the development of the citizen's sense of individual responsibility, the civic progress of the people, and the inculcation of patriotism and respect for human rights. The family is the source of education and parents have the right to choose the education their children will receive.

The National Education Law passed on December 1, 1976 referred to the need to base education on scientific, cultural, and technological principles which prepare students for productive work, give them access to other levels of cultural and national life, and help them to live harmoniously with others and to promote community improvement. The state was to create, maintain, and augment basic vocational education centers and make education "polytechnical."

1. Structure of the Educational System

Educational standards in Guatemala are low. Some 90 percent of the labor force have not completed primary school and only 0.8 percent have received university education. In 1980, there were 482,466 children in the 5- to 6-year age group. Only 10 percent of these lived in attended preschool, and the majority of these lived in the capital city. The 7- to 14-year age group numbered 1,600,000 persons, of whom only 50 percent attended state or private primary schools. The 15- to 18-year group numbered 985,360, only 18 percent of whom attended educational institutions. In higher education, the problem is even greater: out of 800,000 young people between the ages of 19 and 24, only 6 percent attended higher education institutions. Other educational and cultural problems are "monolingualism," affecting more than half the Indian population, and the illiteracy of 80 percent of the rural population.

School education consists of general basic education (9 grades) and diversified education (3 to 4 grades). The first stage consists of kindergarten and the first four grades of primary school. The second stage consists of grades 5 and 6 of primary and grades 1-3 of the general culture cycle of secondary education. The third stage comprises grades 1-3 of diversified secondary education.

Preprimary education aims at preparing pupils for entry into the primary-education cycle. Primary edu-

cation attempts to provide pupils with the basic skills and other requirements to develop an integrated personality and to help them adapt satisfactorily to urban social life. A further activity, which forms an important part of basic general education, is the teaching of Spanish to indigenous monolingual communities so as to facilitate their social integration. Both stages of secondary education aim at producing high-school graduates, teachers, intermediate technicians, trainee accountants, etc.

Higher education is provided chiefly by the country's universities. San Carlos National University is autonomous and functions according to its own statutes. Four private universities exist whose statutes and other regulating principles must be approved by the Council of Private Higher Education. It is responsible to the Ministry of Education and is integrated by representatives of the universities, including the state university. San Carlos National University has 10 faculties, 4 schools, which are independent of the faculties, and 8 regional centers for the training of intermediate-level technicians. Each faculty has schools, departments, and research programs. The centrally run Institute of Economic and Social Research and Institute for Educational Research and Improvement also exist.

Figure 1 presents enrollments at the various levels of education for the period 1965 to 1980.

Nonformal education is relatively new in Guatemala. Its aim is to provide for all types of educational activity outside the school sector. It comprises four units: for unskilled workers, semiskilled workers, skilled workers and intermediate-level technicians, and highly skilled workers. Among nonformal educational programs operating in Guatemala, the following are outstanding:

- (a) the Technical Institute of Training and Productivity (INTECAP), which trains staff for the development of the industrial, commercial, agricultural, and service sectors, according to the country's established

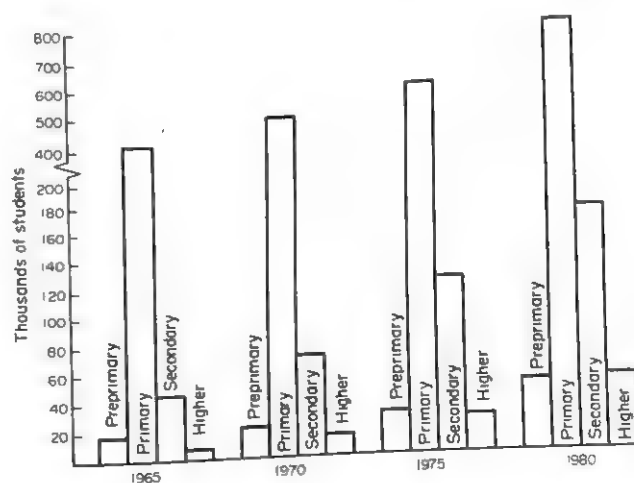


Figure 1
Enrollments at different educational levels, 1965-80

graduates, and so on, are awarded by the Ministry of Education. The conferring of professional titles and degrees at San Carlos National University and in the private universities is the responsibility of the rectors of those institutions.

6. Educational Research

Educational research in the proper sense is not very developed in Guatemala. Investigations are carried out by the Sectorial Unit of Educational Planning and Research, whose work relates to curricular development, the improvement of teaching, and the rational use of existing financial, material, and human resources. San Carlos University has an Institute of Educational Research and Improvement (IIME), which undertakes research into the national educational system and the improvement of teaching by means of programs of teacher training. Research into higher education is carried out by the University Planning Commission, which is also a branch of San Carlos National University.

7. Major Problems

The principal problems to be faced in the next 20 years are the following:

- (a) expansion of the national educational system, mainly at the preprimary and primary levels;
- (b) development of a strategy that will tackle the problem of the education of the nonhispanicized monolingual population;
- (c) reduction of the present levels of illiteracy, mainly in the rural areas and among indigenous peoples;
- (d) achievement of a balance between education for productive work and the overall development of pupils' personalities;

- (e) improvement of the quality of teaching to achieve a scientific focus in the study of reality and develop a critical and creative attitude in the pupil; and
- (f) development of new forms of education to expand the educational system in a democratic and popular direction.

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Guinea

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The Popular and Revolutionary Republic of Guinea is situated on the west coast of Africa, with Sierra Leone and Liberia to the south, Senegal to the north, and Mali and the Ivory Coast to the east. A former French colony, Guinea was one of the first African territories to gain independence when it achieved self-rule in 1958.

The land extends over 246,050 square kilometers (94,975 square miles) with a population in the early 1980s exceeding 5.3 million people and increasing by 2.6 percent annually (United States Central Intelligence Agency 1982 p. 93). In 1984, the population was 5.579 million (Europa 1986). The populace is composed of three major ethnic groups (the Fulani, Malinke, and

Susu) and 15 minor tribes speaking eight languages, though French continues to be the official national tongue. In terms of religious affiliation, 75 percent of the people are Moslem, nearly 25 percent are animist, and less than 1 percent are Christian (Nelson et al. 1975 p. vii).

In a climate ranging from tropical to subtropical and marked by distinct wet and dry seasons, Guinea's economic base is agricultural, with farming the occupation of more than 80 percent of the labor force. Despite potential mineral wealth (particularly bauxite), the nation remains among the world's poorest countries, with an annual income of US\$270 per capita (United

States Central Intelligence Agency 1982 p. 94). Until 1975, the Soviet Union was the country's most consistent ally, but since that time Western countries and African neighbors have also provided economic and technical assistance.

The nation's weak economic base has meant that few funds have been available for developing an educational system truly suited to the people's needs. By the early 1980s, only 5 to 10 percent of the population were literate.

1. The Structure of Schooling, Enrollment, and Curricula

French missionaries opened the first schools in the mid-nineteenth century, but it was only at the beginning of the twentieth century that the colonial government became seriously interested in extending educational opportunities in French Guinea. Even then, the development of schools remained limited, so that most of the populace was unschooled by midcentury. However, it should be noted that education is free at every level. Primary education, beginning at seven years of age and lasting for six years, is officially compulsory.

Since the nation achieved independence in 1958, enrollments have increased in both primary and secondary schools. Primary enrollments grew twofold between 1958 and 1972 (92,500 to 184,000) and then increased by an additional 48 percent between 1972 and 1978 (to 272,000). By the 1980s, an estimated 80 percent of children of primary-school age were in school, so that the prospect of increasing literacy over the coming years appeared far brighter than it had in the past (Europa 1982 pp. 420, 426). Secondary-school enrollments rose at an even higher rate, from 2,600 students in 1958 to 71,000 by 1972 (Nelson et al. 1975 p. 136). By 1979, the number of secondary schools had reached 346 and the student enrollment 106,000 (Europa 1982 p. 426). However, it has been reported that enrollment at both primary and secondary schools decreased respectively to 257,547 and 89,900 in 1982 (Europa 1986). Estimated enrollment at primary schools in 1980 was equivalent to only 33 percent of the relevant age group (44 percent of boys and 27 percent of girls). In 1980 the enrollment at secondary schools was estimated at 16 percent of the relevant age group (23 percent of boys and 9 percent of girls).

Pupils who pass a state examination at the end of the lower-secondary school are awarded a *brevet certificate*. Those passing the examination at the close of the upper-secondary school are awarded a *baccalauréat* diploma and may apply for admission to higher education institutions. By 1974, candidates for the *baccalauréat* had reached nearly 7,300 annually and have continued to increase since that time.

The curriculum for primary education covers 11 subjects—French language, regional language, history, geography, arithmetic, natural science, drawing, music, sewing, physical education, and civics, the last focusing

on contributions to community life, including such direct activities as street cleaning and tree planting (Nelson et al. 1975 p. 137). The introduction of indigenous languages in the primary schools since 1970 has been aimed at increasing young people's literacy in their native tongues. Under the six-year transitional education plan, announced in June 1984, political education was eliminated and French was adopted as the language of instruction in schools. Teaching of the eight national languages was to continue, however. Private schools were legalized in 1984, after 23 years of being banned under the regime of the late President Sekou Touré (Europa 1986).

The lower-secondary-school curriculum, totaling 720 hours of study each school year, includes French, regional languages, history, geography, science, mathematics, accounting, and some basic teaching techniques. The upper-secondary program covers the same general-education areas as the lower-secondary curriculum, plus specialized training. Curriculum planners were seeking in the mid-1970s to achieve an ideal ratio of 40 percent general courses, 20 percent technical training, and 40 percent practical activities (Nelson et al. 1975 p. 138).

Vocational training in agriculture in Guinea has a history going back to 1933, when French authorities opened an agricultural school at Tolo. But the most prominent development in the vocational field has come mainly in recent years. By the early 1970s, intensive technical training, other than that included in the regular secondary schools, was offered in 10 technical institutions called *écoles professionnelles*, half of them located in Conakry. The program has included studies in art, the trades, health (for training paramedical personnel), and commercial and secretarial subjects. In 1972, students attending technical schools numbered 2,311, of whom 681 were female, with enrollments since that time increasing substantially. In the vocational schools, as in all of the nation's educational institutions, an effort is made to link studies closely to the daily needs of the society, so that practical experience is combined with professional knowledge (Europa 1982 p. 420). In 1982 attendance was around 2,900 (UNESCO 1984).

The reduction of adult illiteracy has been one of the chief aims of educational reforms since independence. In 1968, the government initiated a campaign to bring about widespread literacy as soon as possible, with the program accelerated in 1973, when the nation's higher education council decreed that every urban and rural classroom was to be used for adult literacy courses taught by the classroom teachers. In 1983, adult literacy was estimated at 48 percent (Europa 1986).

By the mid-1970s, Guinea's higher education facilities consisted of two institutes, the Gamal Abdel Nasser Polytechnic in Conakry and the Julius Nyerere Polytechnic in Kankan. The construction of the Conakry institute had begun in 1960 with assistance from the Soviet Union. By 1974, the institute was composed

13 schools and faculties, including those of medicine and pharmacy. The institute's higher school of administration offered a five-year program in such fields as accounting, finance, economic planning, and statistics, with the final year devoted to research and thesis writing.

The institute at Kankan started as a teacher-training college in 1962 and was later raised to university status. Its main function is still to prepare secondary-school teachers. First- and second-year students, in addition to attending academic classes, engage in agricultural production. In their third year, they teach part-time in local secondary schools, and during the fifth year they teach full-time.

Entrance to both polytechnic institutes requires a *baccalauréat* diploma and passing of an entrance examination that was introduced in 1965. Enrollment in the two schools increased from less than 70 in 1962 to over 2,900 in 1972. In 1982, regular university students totalled 5,000 whereas the number of students attending other institutions of higher education reached 7,000 (Europa 1986).

Some students travel abroad for their higher education. And the government, in an effort to maintain students' commitment to the nation's political philosophy, requires that returning students, together with those who have completed their university studies in Guinea, participate in a postgraduate seminar in party ideology. But university education in Guinea is often interrupted for periods of practical experience in the chosen field.

2. Administration and Finance

The administration and financing of Guinea's educational system falls under the domain of education and culture, but direct responsibility for schooling is divided between two subordinate ministers, who respectively head the Ministry of Preuniversity Education and Literacy and the Ministry of Higher Education and Scientific Research. Regional education offices are headed by school inspectors responsible for their region's primary and secondary schools. Each inspector is in charge of subordinates who supervise primary- and lower-secondary-school programs and teaching methods. Although primary-school inspection is the task of regional offices, upper-secondary-school supervision is directed from the capital city, Conakry.

The funding of teachers' salaries and school supplies is provided mostly by the national government. Local communities participate in the construction of primary schools by contributing labor, while the construction of secondary and higher education institutions has been financed largely by funds from overseas. The maintenance of facilities in higher education is paid for by the national government, whereas regional offices are responsible for primary- and secondary-school maintenance. In 1978, the current expenditure in education

as a percentage of government expenditure was 17.5 percent (UNESCO 1984).

3. Teacher Training

Despite the rapid increase in numbers of teachers since independence, Guinea continues to experience the same shortage of properly trained instructors that many developing nations face.

By the mid-1970s, teachers for primary schools were trained at four primary normal schools in Dabodon, Koga, Pita, and Gueckedou, serving the nation's four regions. Two more advanced schools were located in Faranah and Macenta. Normal schools have followed a policy of accepting ninth-grade graduates for the two-year program, though a move was initiated in the mid-1970s to make completion of grade 11 the entrance requirement. The more advanced schools had a grade 10 entrance requirement for the three-year training program.

As noted above, most secondary-school teachers are trained at the Julius Nyerere Polytechnic with the Gamal Abdel Nasser Polytechnic also training some. In the mid-1970s, two additional institutions specifically intended for preparing secondary teachers were to be constructed at Kindia and Labe. Part of the shortage of both primary and secondary teachers has resulted from people leaving the profession for better paying jobs in other sectors of the economy or outside of Guinea. In 1982, the various teacher-training institutions had over 8,000 students (Europa 1986).

Instructors for Guinea's higher education establishment are mainly recruited from among the graduates of the country's own higher learning institutions. While there have been substantial numbers of Europeans on the polytechnic staffs, they are gradually being replaced by qualified Guineans.

4. Major Problems

Two of the most obvious challenges facing the nation's educators are those of raising the literacy level of the population and of implementing educational-reform plans aimed at furnishing all children a primary education and training the kinds of specialists required to fulfill the country's personnel needs. Accomplishing these aims will require far more well-trained educational personnel as well as the substantial funding required to attract such specialists and provide the modern facilities necessary for carrying such a program to completion. In view of the nation's financial difficulties and the past inability of the educational profession to attract and retain able teachers and administrators, it will likely be a long time before the nation's educational aims are achieved. After the coup d'état of 1984 ministers visited France to seek assistance, particularly in education (Europa 1986 p. 489), in an attempt to solve the various problems they were confronted with.

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Guinea-Bissau

P. Sonko-Godwin

Guinea-Bissau, formerly known as Portuguese Guinea, is located on the west coast of Africa, bounded on the north by the Republic of Senegal and on the west by the Republic of Guinea. Compared to other African nations, Guinea-Bissau is small, with an estimated population of 800,000 on a land area of 36,116 square kilometers (13,944 square miles).

The ethnic groups that make up the population include the Balantes, Mandjak, Fula, Mandinkas, Pepel, and others, with each of the larger groups varying in number from 15,000 to 35,000 members. This ethnic diversity has had important implications for education in terms of providing equal opportunities for schooling to all and of the choice of a language of instruction in the schools.

Historically, as a Portuguese colony ruled in combination with the Cape Verde Islands off the African coast, Guinea-Bissau had a low rate of literacy and education. The colony was used as a source of labor and raw materials by the Portuguese, and the country's economic infrastructure was poorly developed. By 1950, there were still very few roads, no railroad, and no industries. In the mid-twentieth century, political unrest on the part of the indigenous population was suppressed by the colonial military forces, only to stimulate the by the colonial military forces, only to stimulate the formation of an indigenous opposition African Independence Party, known as the PAIGC (*Partido Africano da Independencia da Guine e Cabo Verde*). A lengthy armed struggle ensued between Portuguese army units and PAIGC forces, eventuating in 1974 in independence for the nation under the PAIGC, which continued in power into the 1980s.

Since obtaining independence, the Guinea-Bissau government has sought to diversify the economy beyond the production of groundnuts and rice as the principal export items. Cotton was first exported in 1979, and there have been recent increases in the yield of tobacco, fruits, coffee, sugar, beans, maize, and casava. The country is seeking to become self-sufficient in food production, though the efforts have been periodically frustrated by erratic climatic conditions, including droughts. The nation's educational system is expected to help improve economic conditions and to provide the types of personnel needed for a socially enlightened polity and a labor force suitable for economic development.

1. Educational Background

Under Portuguese colonialism, education was in the hands of missionaries, who followed the government's policy of assimilation, that is, of having a small minority of the indigenous peoples assimilated into European culture through Portuguese-style schooling in the Portuguese language. This minority could hold low-level positions in the colonial administrative structure. By 1950, only 2 percent of the African population had acquired rudimentary schooling, and this was of a variety focusing on European rather than African culture.

The PAIGC forces in the 1960s not only adopted a goal of gaining political independence for the indigenous peoples but also of expanding education. The educational task proved particularly difficult, in view of the shortage of educated Africans and the lack of instructional materials. By 1967, the PAIGC controlled 60 percent of the country and was under continual attack by the Portuguese Army, yet the party's educational effort continued. The PAIGC set up "bush schools" for children between the ages of 6 and 11, offering four years of primary education, after which students might transfer to three-year upper-grade pilot schools in neighboring Senegal or Guinea. By 1970 the 157 Guinea-Bissau bush schools enrolled 23,000 children.

Since there were no opportunities locally for more advanced schooling beyond the pilot schools, students who chose to go beyond basic education had to pursue advanced studies in such nations as Cuba, the Soviet Union, Yugoslavia, and the German Democratic Republic.

During the 1960s and early 1970s, it was also obligatory for all members of the armed forces to participate in some form of education. Also, several boarding schools were set up for orphans and for children whose parents were engaged in fighting against the colonial army.

By 1973, the year before full independence was obtained, the PAIGC reported that illiteracy had been reduced from its earlier figure of over 95 percent to a current 71.6 percent, with more women (84.6 percent) than men (58.5 percent) still unable to read and write (UNESCO 1981 pp. 1-19). Furthermore, there were 422 students in higher education institutions abroad; 35 African students had by then earned university degrees under the party's program as compared

to only 14 graduates by 1960 under the Portuguese administration.

The aims of education of the new government at the time of independence in 1974 included the elimination of illiteracy, the establishment of free compulsory education, and the training of the technical and professional cadres required for political and economic progress. The government also intended to develop indigenous languages and the Creole (a Cape-Verdian variety of Portuguese) that is widely spoken in Guinea-Bissau. The need for devising suitable written forms of these languages was emphasized. Plans were also laid for developing secondary and technical schools and a university. But by the early 1980s these goals had been only partially achieved.

2. Structure of the Educational System

Although the law states that primary schooling is compulsory for all children aged 7 to 14, the country has been unable to implement the law completely because of a shortage of qualified teachers, classrooms, equipment, and transportation facilities. By 1979, Guinea-Bissau had only 3,300 kilometers (2,051 miles) of roads, with only 540 kilometers (336 miles) hard-surfaced (Europa 1981 p. 431). Moreover, the lack of school buses or alternative forms of transport meant that many children could not readily reach a school from their homes.

A further barrier to universal schooling has been parental attitudes. With over 70 percent of the population still illiterate, and with an agricultural economy that depends chiefly on human labor rather than machines, many parents prefer to have their children help in the fields rather than spend their days in school.

In terms of overall structure, the school system was conceived at the time of independence to consist of a preschool level followed by a six-year primary level, three-year intermediate level, and two-year upper-secondary level. In practice, however, postprimary education assumes a slightly different pattern which is still a substantial advance over the four-year plus two-year structure of the bush-school system prior to independence.

Currently, preschool opportunities in the country are still very limited. In 1970, three privately operated kindergartens enrolled 217 children. By 1979, there were five preschools attended by 384 children (174 girls, 210 boys), with 88 percent of the teachers female and 12 percent male.

The nation's primary schools, which children enter at the age of six, numbered 261 in 1970 with an enrollment of 27,974 pupils and 6,161 teachers, for a teacher/pupil ratio of 1:45. Over the ensuing decade, enrollments steadily rose until in 1979 there were 76,709 pupils in 704 schools, with 79 percent of the pupils male and 21 percent female. There were 3,102 teachers by 1979, making a teacher/pupil ratio of 1:33.

At the end of the six-year primary school, graduates may enter a form of secondary schooling. Postprimary

schooling is of two types: (a) a general-secondary stream consisting of a three-year junior level and two- to four-year senior level and (b) three-year vocational programs. The purpose of the junior level of the general-secondary stream is to improve students' academic skills, to acquaint them with technological principles, and to inculcate in them the urgent need for further development. Following the junior high, students enter specialized institutions for a two- to four-year program in nursing, agronomy, the social sciences, or teacher training. In the three-year postprimary vocational programs, students are trained as primary-school teachers, nurses, field workers, and clerks for government departments.

In 1970, there were 4,215 pupils enrolled in all second-level schools, with 77 percent in general studies, 9 percent in teacher training, and 14 percent in the remaining schools. Enrollments fluctuated over the next eight years, reaching 5,371 by 1977 with 91 percent of the students in general studies, 7 percent in teacher training, and 1 percent in other programs. After 1977, there was a decline to a low of 4,256 in all secondary schools by 1978. At the same time, the percentage of females in school declined, so that by 1979 only 17 percent of all secondary-school students were females, making up only 18 percent of the enrollment in general studies, 8 percent in teacher training, and 13 percent in other programs (UNESCO 1981 pp. 111-72).

In addition to the formal schooling structure, the government of Guinea-Bissau has, since the time of the armed struggle against the Portuguese in the late 1960s, conducted a continuing campaign to increase literacy among the adult population.

The country has no tertiary-level educational institutions. Secondary-school graduates who wish to continue their studies must travel abroad for higher education, mainly to Cuba, Portugal, the Soviet Union, and neighboring African countries. Students who study abroad usually return to serve in Guinea-Bissau as medical doctors, engineers, teachers, and other types of professionals.

3. Administration and Finance

Since the nation achieved independence, education has been the responsibility of a Commissariat of State for National Education and Culture, headed by a minister of education. The six departments of this agency include three which are directly in charge of primary, secondary, and adult education respectively.

Public expenditure on education has been increasing each year. In 1970, the Portuguese government spent 17,020,000 escudos on education, which was about 5.5 percent of the national budget. By 1978, under the independent government, the expenditure on education had risen to 270,684,000 escudos (including foreign aid), which represented 19.1 percent of the total government budget. The largest segment of the education budget

was spent on salaries and teachers' benefits (55.4 percent), with the rest divided among scholarships (33.6 percent), administrative expenses (6.3 percent), and miscellaneous items.

4. Curriculum Development and Supply of Personnel

During the years of struggle for independence, the curriculum of the bush schools was limited to simple reading, writing, and arithmetic and to topics directly concerned with the drive for independence, such as African culture and methods of land cultivation. Elementary- and secondary-school textbooks imported from Senegal and Guinea were translated into Portuguese for primary and pilot schools.

Since independence, the government has sought to develop curricula suited to the needs of the country. For example, courses have been developed in such areas as basic education, carpentry, and mechanics.

The language of instruction in the school system continues to be Portuguese. There was a brief period of experimentation in 1968–69 with the instructional use of Creole popular in Guinea-Bissau and in the Cape Verde Islands. However, the difficulties of developing Creole to serve as the regular instructional medium proved too great. Some efforts have also been made to develop the languages of the nation's various ethnic groups.

Over the years Guinea-Bissau has faced a problem of recruiting enough capable teachers for both primary and secondary schools. The nation's teacher-training schools regularly provide graduates to help meet the

demand for teachers in both urban and rural primary schools, but the need continues to be great. Secondary technical and vocational schools are staffed mainly by Guinea-Bissau nationals trained abroad.

5. Major Problems

The major problems facing the educational system of Guinea-Bissau in the 1980s and 1990s are the eradication of illiteracy and the establishment of free compulsory primary education for all. The country has not yet been able to implement the compulsory schooling law completely due to the shortage of qualified teachers, classrooms, equipment, and transportation facilities. In addition, the government has plans to develop secondary and technical schools and a university for the training of the technical and professional cadres required for economic and political progress. Some improvements have been achieved in the educational system since independence in 1974 but there is still a long way to go.

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Guyana

N. K. Samaroo

Formerly British Guiana, the Republic of Guyana is located on the northeastern coast of South America. It has a land area of approximately 216,000 square kilometers (83,000 square miles), but in spite of its size 90 percent of Guyana's population live on the coast in an area of approximately 699 square kilometers (270 square miles). The remainder of the country consists largely of rivers, creeks, and dense, inaccessible forests. Guyana has four main ecological zones: the narrow, low coastal plains; the hilly sand and clay belt; the mountain region; and the savannah region.

Guyana has often been referred to as the "Land of Many Waters" and "Land of Six Peoples"—the latter being a euphemism to describe the mix of ethnic groups brought about by European slavery and indentureship. Except for the indigenous Amerindians, the population of 800,000, comprising six ethnic groups, was brought to the country between the sixteenth and nineteenth

centuries primarily as slaves or, with the abolition of slavery in 1838, indentured servants to work on the sugar plantations. The present population comprises approximately 51.8 percent East Indians, 31.2 percent Negroes, 5 percent Amerindians, 0.8 percent Portuguese, 0.5 percent Chinese, 0.3 percent Europeans, and 10.3 percent mixed (interracial) (Samaroo 1977). Historically, and primarily because of the nature of their arrival in British Guiana, a distinction is made between Portuguese and other Europeans (who are more familiarly referred to as white).

The population distribution is 3.7 persons per square kilometer (9.64 per square mile). During 1960–70, the annual population-growth rate was 2.46 percent. However, since 1970 the rate has fallen to about 1 percent. The urbanization rate, which was 30.2 percent in 1965, rose to 33.3 percent in 1975 and will, it is projected, reach 46.6 percent by the year 2000. This increasing

urbanization has resulted from younger Guyanese (58.4 percent of the population is under the age of 19) seeking employment in the already established towns, as well as the creation of new townships and the expansion of existing ones (Guyana, Ministry of Economic Development 1978).

Agricultural workers, comprising about 30 percent of the employed population, are the largest occupational group in Guyana; workers in the public sector follow, comprising 20 percent; manufacturing employs 18 percent and commerce 14 percent. The labor force constitutes 55 percent of the population over the age of 14 and about 30 percent of the labor force are unemployed.

Education, an important adjunct of social class and certification, especially at university level, is the goal of every student. As a result, ethnic or color values are presumed not to rank high as indicators of social class.

The first five-year economic plan went into effect in 1966. Technical education was emphasized as the main thrust to improve and increase the technical skills the government thinks necessary to bring about meaningful development and change (Guyanan Development Plan 1966).

Three specific export-oriented subsectors of the economy are currently of particular importance and are presented in Table 1. Since 1970, forestry, livestock production, fishing, and manufacturing have shown their potential export importance. Government controls about 80 percent of the natural economy; the remaining 20 percent is shared by the private sector.

Guyana is a "cooperative republic." It became an independent country in 1966 under a prime minister, with a 53-seat parliament on the Westminster model which had been elected in 1964. While previously elections were held in districts or boroughs, beginning with the 1964 elections Guyana changed to a system of proportional representation (an exception rather than the rule both within and outside the Commonwealth). In 1970, Guyana became a republic within the Commonwealth with cooperativism as the main goal of economic development. The president is the head of state. The prime minister, the principal assistant to the president, is the leader of government in parliament (the National Assembly). There are five vice presidents, including the prime minister, who are government ministers, and there are 30 other ministers. The leader of

the opposition in the National Assembly is referred to as the minority leader.

In addition to the National Assembly, president, and cabinet there are two other supreme organs of government: (a) the National Congress of Local Democratic Organs, which has the primary duty of ensuring the efficient management and development of the 10 regions into which the country is divided; and (b) the Supreme Congress of the People, which consists of all members of the National Assembly and the National Congress of Local Organs and has the function of discussing and making recommendations to the National Assembly or government on any matter of public interest.

The Constitution asserts the right of every citizen to free education, as well as equal rights for men and women, making all forms of discrimination against women on the basis of sex illegal.

1. Goals of the Educational System

The educational system is expected to prepare citizens who will understand and appreciate the social circumstances of Guyana and their roles in that environment. The system is geared to (a) the inculcation of patterns of human behavior which support strategies determined for national development; (b) the supply of academic training relevant to the wide range of occupational skills necessary for the economic and social development of Guyana; and (c) the involvement of the school population in community schemes which identify job opportunities and job needs in the rural, urban, and hinterland areas in which they live (Guyana, Ministry of Education 1968).

2. General Structure and Size of the Education Effort

2.1 Formal Education

The structure of formal education in Guyana is shown in Fig. 1. Elementary education has been compulsory by law since 1876. In 1976, one century later, the government made education free from nursery school to university. Children enter nursery school at the age of 3-4 years. They spend two years there before entering primary school, where they remain for six years to grade 6, before entering secondary school by selection through the Secondary Schools Entrance Examinations (SSEE). There are four types of secondary school—the secondary department of the primary school, community high school, general secondary school, and multilateral and senior secondary schools. Entry to them from primary school depends on the grades obtained at the Secondary Schools Entrance Examinations. Graduation from one type of secondary school to another is by way of the Secondary Schools Proficiency Examination. Students can be promoted to a general secondary school or be accepted by the Industrial Training Center, the school of home economics, or for a two-year course at the school of agriculture.

Table 1
Main exports 1980

Subsector	Value (1978 G\$)	Percentage
Dried bauxite, calcinated aluminum, and aluminum hydrate	328,255	43.7
Sugar, rum, and molasses	253,021	33.7
Rice	95,983	12.7

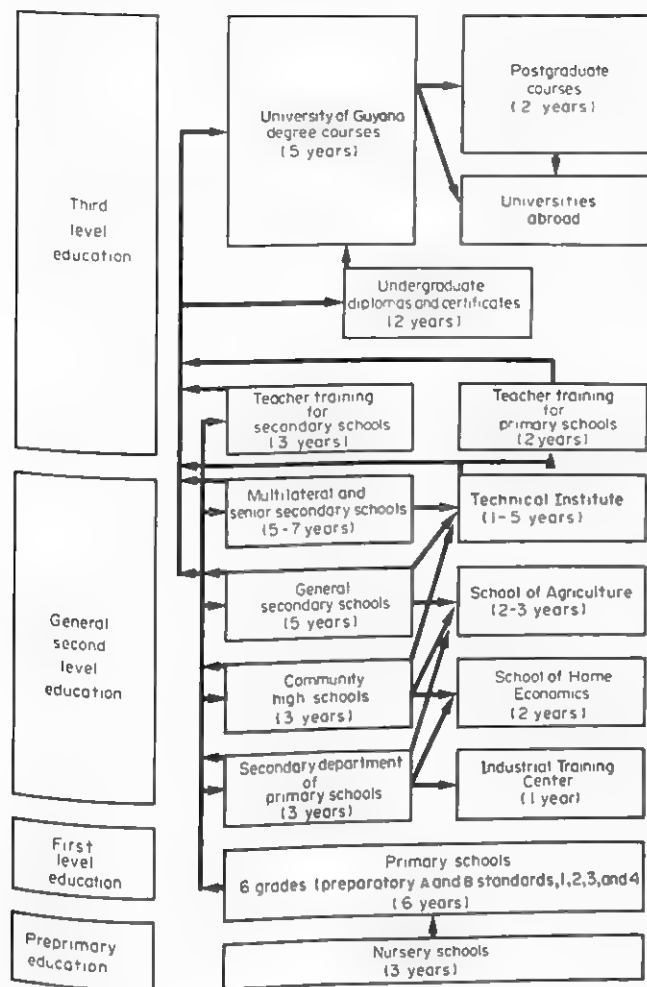


Figure 1
Structure of the educational system 1981

Access to tertiary education is by way of the Caribbean Examination Council Examinations (CXC) which are either basic or general, and the University of London General Certificate of Education Ordinary (O') and Advanced (A') level examinations. Students can then enter the technical institutes, teacher training for primary or secondary schools, the University of Guyana, or universities abroad for study areas not offered in

Table 2
Types of school by age and enrollment 1980

Age group	Type of school	Enrollment as % of age group
3-5	Nursery	39.18
5-12	Primary	78.61
12-19	Secondary	59.65
19+	Tertiary	0.87

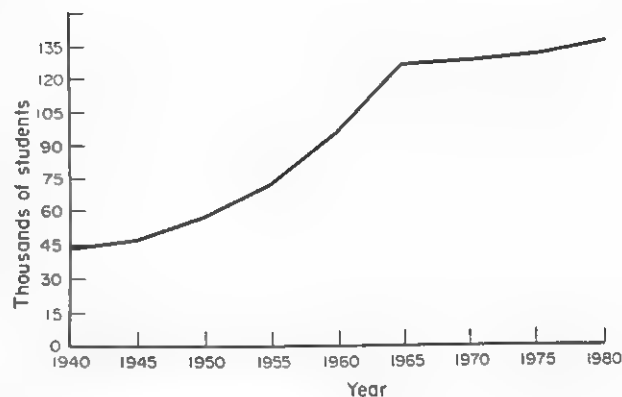


Figure 2
Primary-school enrollment 1940-80

Guyana. Enrollment at different levels of the system is shown in Table 2 and Figs. 2 and 3.

2.2 Nonformal Education

Nonformal education is synonymous with adult education. It is mainly administered by the Ministry of Higher Education, although programs are conducted formally by the extension services of the Ministries of Agriculture, Health, and Information and by some private agencies. With compulsory education established for over a century, the country is in the fortunate position of possessing a literacy rate of about 90 percent, so that illiteracy and innumeracy are not pressing adult education problems. Essentially, the goals of nonformal education, which takes only 0.15 percent of the annual national budget, are similar to those of the formal educational system.

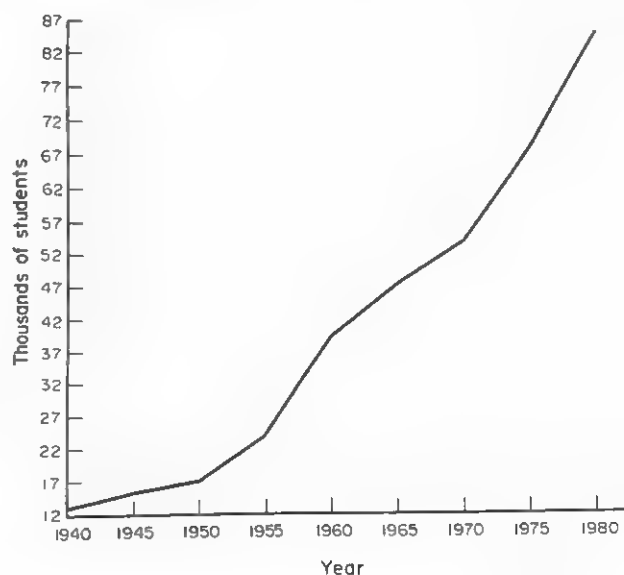


Figure 3
Secondary-school enrollment 1940-80

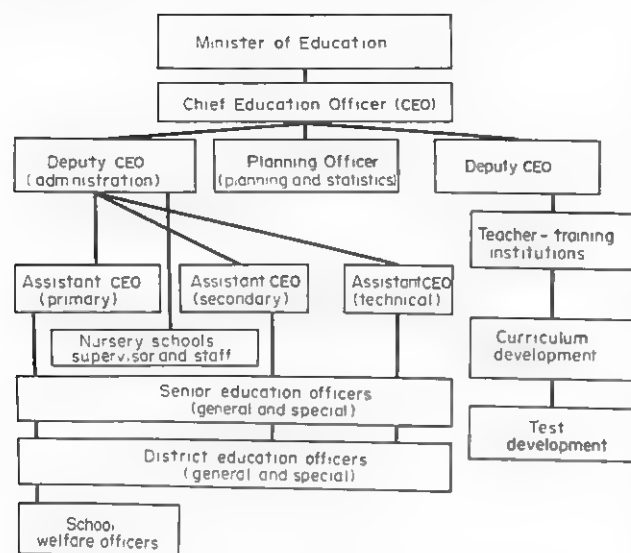


Figure 4
Administrative and supervisory structure of schooling

3. Administration and Finance

All schools operate under the jurisdiction of the Ministry of Education. As illustrated in Fig. 4, the present administrative and supervisory structure of schooling reflects the division into preprimary, primary, and secondary schools. Education is centrally controlled, but recently the country has been divided into 10 regions, thereby allowing for local supervision. The University of Guyana has a statutory board to which it is responsible, but the Ministry of Higher Education has overall control of the institution.

Education in Guyana is the responsibility of the government. The unit cost (per student) for each level of education is: preprimary G\$45, primary G\$150, secondary G\$280, university G\$5,000, and nonformal G\$25. The percentage allocation of the annual state budget for

education shows that preprimary obtains 0.95, primary 4.01, secondary 3.26, higher (university) 1.25, and non-formal 0.15 percent (Guyana, Ministry of Education 1980).

4. Supply of Personnel

All primary- and secondary-school teachers are trained in government training institutions over a two- and three-year period respectively. Other personnel are trained at the university or overseas. In the early 1980s, a restructuring of the courses offered at the teacher-training institutions was introduced in order to improve the quality of training. There were also plans to improve and upgrade entry qualifications at these institutions. According to the government development plan (1976), there exists a shortage of personnel at all levels. The level of staffing projected by the government had not yet been met by 1980 (as shown in Table 3) (Guyana 1976). Teacher-training institutions are the responsibility of the Ministry of Education.

5. Curriculum Development and Teaching Methodology

Under the Ministry of Education, the national curriculum development unit is responsible for developing curriculum while the national material implementation unit has responsibility for writing and producing learning materials; both emphasize government goals and objectives which ensure their relevance to national priorities. Disseminated to regional curriculum committees, these materials are modified to suit each region's needs. They are pilot tested and eventually disseminated to schools within each region; hence, curriculum is not uniform nationwide. Since independence, the government has encouraged a move from the traditional methods of memorization, rote recall, and teacher-directed learning toward the methods of concept formation, creative thinking, and pupil initiative.

Table 3
Existing and required personnel 1980

Occupational groups	Existing personnel	Projections of government development plan (1976) for 1980	Additional personnel requirement
Primary-school teachers	4,606	5,100	494
Secondary-school teachers	3,051	4,220	1,169
Professional supervisory staff	312	515	203
Administrative staff	150	200	50
Ancillary staff	2,045	2,250	205

However, one of the chief problems in primary and secondary education is still the continuing use of the more traditional teaching methods. The major problem facing curriculum planners is the rapidly changing content of subject areas and the growing range of knowledge children are required to obtain during their short school lives.

Higher education faces the problem of relevance in terms of whether the subject areas offered by the university equip graduates with the skills necessary for employment and the development of their country. The Ministry of Higher Education has embarked upon a study of the needs of the government and private sectors in terms of jobs requiring university training.

6. Examinations, Promotions, and Certification

Within a given school, promotion from one grade to another is by teacher assessments of a student's performance in annual examinations in various subjects and the student's work during each term. However, entrance to secondary and tertiary institutions is based upon nationwide examinations.

Advancement to secondary school depends upon a student's national ranking on the Secondary Schools Entrance Examinations (SSEE). Students with the highest scores go to the most "prestigious" schools and those in the lower percentiles go to less "prestigious" schools. At the end of secondary school, students may take the Secondary Schools Proficiency Examination which allows admission to trade schools and other tertiary institutions (except university). For entry into a university (both locally and abroad), students take the London General Certificate of Education at Ordinary and Advanced levels or the Caribbean Examination Council Examinations (CXC). Thus certification facilitates movement from one institution to another or to a workplace, while promotion allows movement within specific institutions.

One major problem with current examinations and promotions is that the Secondary Schools Entrance Examination is taken at 11 years with the attendant problem of whether or not this is too early an age for selection. Another problem is whether examinations should be continuous rather than periodic. The underlying premise is that while certification can be useful to enable a graduate of one institution to enter another, it can be meaningless in the work situation, unless employees have some involvement in deciding which curriculum meets the terms of his employment.

7. Educational Research

Guyana, like most former colonial societies, suffers from the lack of a research orientation and there is a paucity of research documentation prior to the 1960s. Nevertheless, some research has been done since then,

especially by Guyanese educators overseas. Bacchus (1966, 1969a, 1969b, 1972) has done seminal work emphasizing the social, economic, and cultural factors of education in a "plural" society. Similarly, the works of Pollard (1965), Benti (1971, 1974), and Baird (1971, 1974), who are locally based, emphasize work structure, student attitudes, and early childhood development. Current research priorities are placed on remedial teaching methods, validation of the Secondary School Proficiency Examinations, and students as teachers.

8. Major Problems

Guyana, though independent, must be considered "backward" economically, especially when compared with the so-called developed nations. This gives rise to economic and social problems, especially in providing necessary facilities at all levels of schooling for the growing number of young (as well as older) Guyanese whose expectations are understandably high. Since the 1960s, such problems are reflected in the need to reorganize the curriculum to meet the growing needs of Guyana in such areas as sciences, agriculture, and technology. Further there is a shortage of teachers particularly in these areas since skilled personnel prefer higher paying jobs elsewhere in the country or abroad.

In spite of the government's attempts to meet these needs, its commitment to education is necessarily reflected in its fiscal allocations for both education and research. Concomitant with these problems are the meteoric rates of unemployment and underemployment, as well as a constant emigration of Guyanese since the 1960s. The constant exodus of skilled Guyanese over this period has created a void at every level of productivity, but especially at the level of potential educators.

The major challenge for the government during the 1980s and 1990s is to attract enough potential educators both overseas and locally, as well as to provide suitable employment for Guyanese who have already completed their primary, secondary, and in some cases, tertiary education.

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Haiti

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In the middle of the Caribbean area, the Republic of Haiti occupies the western part of the island that it shares with the Dominican Republic and covers 27,000 square kilometers (10,420 square miles) inhabited by an estimated population of five million people. This represents a mean demographic density of 180 inhabitants per square kilometer. Such a demographic density is even higher when one considers that the relief of the country is essentially mountainous and the plains cover only 4,800 square kilometers (1,850 square miles). The natural rate of increase of the population is 2.3 percent but the actual rate is 1.9 percent if emigration is taken into account.

The age-group distribution can be depicted as: up to 15 years old, 30 percent; between 15 and 59 years old, 53 percent; and over 60 years of age, 7.4 percent.

Approximately 80 percent of the working population pursue agricultural activities but only 800,000 hectares of cultivable soil are available in the country. Although fishing and animal breeding are practiced by a great number of people, they are still rated as secondary activities compared with agriculture which is essentially one of subsistence because of drought, erosion, land parceling, and demographic pressure. Increasing numbers of people are migrating to the urban areas in search of jobs in industry.

While the industrial sector has had a remarkable development since 1970, chiefly because of direct foreign investments in assembling factories for reexport and the setting-up of a score of national industries, it is unable to absorb more than 10 percent of the available labour force. All in all, the industrial sector employs about 200,000 people. In the tertiary sector, the state is the biggest employer with its 30,000 civil servants.

Such a precarious socioeconomic situation has repercussions on the educational system which reflects the state of the country's structural underdevelopment.

1. Structure of the Educational System

At independence in 1804, the principle of free schooling was written into the Haitian Constitution. Primary education is compulsory for children between 6 and 14 years of age, yet the rate of illiteracy nowadays amounts to 75 to 80 percent, which speaks for an obvious deficiency of the Haitian educational system that encompasses two subsystems: formal and nonformal education.

1.1 Formal Education

The formal education subsystem is under the exclusive supervision of the National Education Department and is composed of preschool education, primary-school education, secondary-school education, technical training, and university education.

Preschool education is optional and is available exclusively from private urban schools to children under 6 years of age to permit them to acquire good habits and develop their sensorial faculties. Since it was introduced in the early 1960s, it has developed in a spectacular way in the urban area. Though it is under the supervision of the National Education Department, this subsystem has not yet been legally recognized, which makes it difficult to gather information about it. The same is true of the special type of training given by private institutions to the physically and mentally deficient.

Under the Constitution, each child is entitled to attend freely any public primary school, but as the state cannot meet the demand, private teaching has been legally authorized. In 1980, the number of children in both public and private primary-school institutions was 580,401, of which 372,721 were between 5 and 12 years old, 204,191 between 13 and 18 years old, and 3,489 between 19 and 20 years of age. Nonattendance is very high. In 1980 only 42 percent of the 5- to 12-year-old

population actually went to school. The deficit is evident because the nonattending 58 percent would increase the number of illiterate youths. This deficit is even more serious if one considers the material and human resources at the disposal of the 580,401 children attending primary schools in 1980. There were 13,401 primary-school teachers, of whom 5,101 worked in the public sector with 277,458 pupils distributed over 958 schools having a total of 4,995 classrooms. Private primary schools had 8,300 teachers and 2,038 schools with a total of 7,676 classrooms for 302,943 pupils. The mean ratios for public primary schools were 54 pupils per teacher and 55 per classroom; but in rural communities, these ratios ran as high as 73 and 65 respectively. For private primary education, the mean ratios were 36 pupils per teacher and 39 per classroom, but in the rural environment, the ratios were respectively 40 and 47.

At the beginning of the 1980s the primary-education situation was alarming: 58 percent of the children did not attend school; 10 percent only finished the primary-school program; 5 percent entered secondary school; and for the 42 percent going to school the human and material resources at their disposal were inadequate. The problem is further compounded if one takes into account that 41 percent of all primary-school teachers are not qualified.

It is impossible to determine in absolute numbers the amount of children that should attend school at the secondary level due to the deficiencies in the primary-education system and the noncompulsory character of secondary school. It all depends on the demand which itself is conditional upon the number of children who have successfully completed their program of primary studies and whose parents can afford to pay the required expenses. Secondary-school education can be evaluated only through the opportunities that are offered to the students registering for it.

In 1979-80, public and private secondary schools were attended by a total of 87,690 students, of whom 23,925 were following the first-year program of a seven-year curriculum. Out of the 87,690 students, 18,341 were attending lycées and 69,339 were in private institutions.

The student-teacher ratio was 27:1 in the public sector and 23:1 in the private one; with 64 students per classroom in the public sector and 49 per classroom in the private one. The student-teacher ratio appears inconsistent with the student-classroom ratio because in many lycées a shift system operates, with one group of students in attendance in the morning and another one in the afternoon. Such an arrangement results in an improvement of the secondary-school student situation. Yet, the quality of school buildings leaves much to be desired. Many residential houses have been converted into schools and, only three out of 205 secondary schools can boast a laboratory and other facilities for science experiments. General secondary-school teaching is bookish and theoretical.

The results of the official *baccalauréat* examinations

reflect the deficiencies in secondary education. In 1980, out of the 7,650 candidates who took the official *baccalauréat* examinations (Part I), only 1,639, or 21.4 percent, were successful. The *baccalauréat* examinations (Part II) were taken by 3,474 students, of whom 57.6 percent passed.

There are 55 technical institutions and 60 home economics centers located throughout the country. Statistical data available for 13 public institutions indicated a total attendance of 2,888 students with 245 teachers in 1980. In the same year, there were 426 graduates in the following fields: dressmaking, cabinet-making, shoemaking, electricity, mechanical fitting, ceramics, blacksmithing, ironsmithing, masonry, metal construction, electronics, industrial drawing, refrigeration, automotive mechanics, diesel mechanics, and sanitary installation.

In addition Haiti has 3 nursing schools, 1 laboratory technicians training school, and 1 medical helpers school, all operating under the School of Medicine and Pharmacy; 1 intermediate school of agriculture, 4 agricultural vocational schools, all dependent on the College of Agronomy and Veterinary Medicine; a land-surveying school, operating under the School of Sciences; a hotel-training school, dependent on the Department of Social Affairs; and an intermediate School of Geology, sponsored by the Department of National Education.

The State University of Haiti, operating under the Department of National Education, supervises both public and private tertiary education. Public institutions include the School of Law and Economics, the School of Medicine and Pharmacy, the School of Odontology, the School of Agronomy and Veterinary Medicine, the School of Human Sciences, the School of Ethnology, the School of Sciences, the Applied Linguistics Center, the Superior Normal School, the African Studies and Research Institute, and the National Institute of Administration, Management, and Advanced International Studies. All are located in Port-au-Prince. There are also three private centers for engineering and electronics.

There are four private law schools operating under the supervision of the Faculty of Law and Economics of the State University. They are located in Cap-Haitien, Gonaives, Cayes, and Jérémie.

In 1980, the public institutions were attended by 3,801 students taught by 569 professors. The number of graduates in 1980 was 312, including 124 medical doctors and pharmacists.

There are a number of major problems facing tertiary education in Haiti. Firstly, as 98 percent of the professors work part-time, research development is seriously limited. Secondly, the accommodation capacity is inadequate. In 1980, of the 2,000 students who passed the *baccalauréat* examination (Part II) the State University could accommodate only 1,407. Thirdly, each public institution is an autonomous entity whose relationship with the university rectorate is purely

financial. The School of Medicine and Pharmacy and the School of Odontology are, however, financially dependent on the Department of Public Health and Population. The School of Agronomy and Veterinary Medicine is funded by the Department of Agriculture, Natural Resources, and Rural Development. These schools are only theoretically part of the State University and there is a problem of academic and administrative integration.

The university libraries are poor and badly organized, with the exception of those of the School of Medicine, the School of Agronomy and the National Institute of Administration, Management, and Advanced International Studies. Only the School of Medicine and the School of Agronomy possess laboratories.

1.2 Nonformal Education

The low rate of primary school attendance has made it imperative to develop nonformal education. Unfortunately this type of education is organized in such a disorderly way that efficient evaluation is difficult. Nonformal education is undertaken at a great number of public and private institutions, but due to a lack of coordination there is a great dispersion of structures, locations, objectives, and methods.

Despite these comments, nonformal education can be said to encompass three types of education: general education, with an emphasis on literacy; education related to community development; and education covering technical subjects (agriculture, animal breeding, hygiene, home economics, etc.).

The most active state agency in the field of nonformal education is the *Office National d'Alphabétisation et d'Action Communautaire* (ONAAC), which is under the sponsorship of the Department of National Education. This agency carries out the first two types of nonformal education throughout the country and operates with a team of monitors and polyvalent agents.

A no less active public agency is the Cooperatives National Council which is in charge of a three-level nonformal education program for the benefit of the cooperatives: elementary, intermediate, and advanced. The Department of Social Affairs has set up several worker training centers where workers are given courses on syndicalism and technical notions. Through its agricultural extension and rural stimulation services, the Department of Agriculture, Natural Resources, and Rural Development carries out a practical teaching program covering such subject matters as agricultural techniques, the fight against soil erosion, reforestation, and animal breeding.

The Department of Public Health and Population, with the development of preventive medicine in mind, has set up a large-scale program of training in public hygiene, birth control, and maternal-infantile care.

It is difficult to measure quantitatively the effect of these nonformal public education programs which are carried out both by trained monitors in the field and through the radio and state television. The efforts by

the public sector are helped by international benevolent agencies and religious denominations.

In 1972, it was estimated that 500,000 people had enrolled in nonformal educational programs. However, there is still much to be done since these programs are oriented toward the 15- to 64-year olds who numbered approximately 1,850,000 in 1971.

2. Educational Finance

The available data for 1979-80 indicate that 1.1 percent of the gross national product (GNP) was earmarked for education. This represents 16 percent of the state budget. The sum allocated for educational purposes amounted to 77,069,600 gourdes (US\$1 = 5 gourdes). Of this sum 66.5 percent was earmarked for primary education, 8.4 percent for secondary education, 6.1 percent for technical training, 6.4 percent for university education, 4.0 percent for ONAAC, and 8.6 percent for miscellaneous purposes.

The annual cost (1979-80) for educating a child in a public institution was US\$36.93 for primary education, US\$70.90 for secondary education, US\$323.10 for technical training, and US\$259.30 for advanced education.

At present, the Department of National Education is granted technical and financial assistance by such organizations as the United Nations Development Programme, UNESCO, the World Bank, the International Labour Organization, UNICEF, SCCT, and by the United States, Canada, and France. During the period 1976 to 1981 Haiti received US\$51,975,100 in external assistance.

3. Major Problems

From the time of independence until now, all Haitian governments have turned to Europe, particularly to France, the former colonial power, and the United Kingdom for guidance in setting up an educational system. The result has been a confused educational system strongly influenced by the French and devoid of any effort of adaptation to the generic realities of the Haitian people. School books are imported from France and carry French illustrations. The young Haitian pupil is compelled to assimilate subjects that have no bearing on his environment, and learning is based essentially on memorization. The curriculum bears no relation to Haitian cultural values. Moreover, the medium of instruction is French. Haitian pupils whose mother tongue is Creole are taught the first notions of reading and arithmetic in French, a language they do not understand.

The educational system has a high rate of failure and dropout of primary-school pupils. Only 5 percent continue to secondary school, which brings about elite-oriented teaching that is accessible only to children who practice spoken French at home, and results in contempt for the government's efforts at teaching in rural areas where the results of the system are practically nil.

The early 1980s have witnessed an awakening of the national conscience, and a sensitivity toward Haitian educational problems. The National Education Department delineated a reform program begun in October 1982, the purposes of which are:

- (a) Extending basic primary education to the whole of the teachable school-age population.
- (b) Reforming secondary-school teaching so as to adapt it to national realities.
- (c) Developing teaching techniques.
- (d) Orienting university education towards research and the training of highly competent cadres in the technical and scientific fields.
- (e) Extending the extracurricular educational system.
- (f) Reinforcing the institutional structures and rationalizing the administration of the system.
- (g) Improving school achievement and teaching standards.

The strategy is to implement the reform first in primary schools. The plan aims to have 100 percent of the 6- to 12-year old population enrolled in full-time primary schooling by 1990.

The reform program is very ambitious and above the current human and financial capacities of the Haitian State. In order to implement it large contributions from external resources will need to be used within the scope of a national educational policy as defined by the responsible Haitian officials. A final aim is for all levels of education to have a type of teaching that is specifically Haitian in its content, pedagogical methods, and cultural values.

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Honduras

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The main features of the educational system of Honduras are typically Latin American. There is an autonomous university preparing students for entry to traditional professions. There are secondary schools in which the ideal of a liberal and encyclopedic education predominates. Universal primary education has been decreed by law for over a century but is still not a reality in the rural areas. The direction of educational reform since the early 1960s has been similar to changes in other Latin American countries, with emphasis on technical and vocational education.

While traditional patterns of education and educational reforms have much in common with other Hispanic American countries, the economic and social context is different or perhaps more extreme in Honduras. Poverty is more acute, social divisions sharper, and the economy is more rural and more stagnant than in almost any other Latin American country. The dysfunctionality of existing education to development needs and the size of the socioeconomic problems to which educational reforms are seen to be solutions are greater in Honduras than in the rest of Latin America.

Honduras is the second largest (in area and in population) of the six Latin American republics situated in Central America, between Mexico and South America.

It is bordered by the states of Guatemala to the northwest and Nicaragua to the southeast as well as by the much smaller country of El Salvador. It has an area of 112,880 square kilometres (29,236 square miles). Some 75 percent of the land area is mountainous, with small areas of lowland along the coasts and in river valleys. Communications in many areas are difficult. This impedes the efficiency of administration.

The population in 1980 was estimated at 3.7 million. While the density is low (32 inhabitants per square kilometre), the rate of growth in the 1970s was, at 3.5 percent per annum, very high. The capital, Tegucigalpa, with a population of 0.45 million in 1978, is rivalled, unlike other Central American countries, by other cities such as San Pedro Sula, with a population of 0.3 million. The population is predominantly rural (65 percent). The high rate of population growth in rural areas has put great pressure upon educational services, especially since almost half the population is under 14 years of age.

Originally, the population was made up of indigenous Indian groups and Spanish settlers. Interbreeding has meant that 90 percent are now classified as *mestizos* (of mixed European-Indian parentage), 6 percent Indian, 2 percent Negroid, and 1 percent Caucasian. Spanish is

the official language and that, with rare exception, of daily use. It is the sole medium of instruction in education. The population is predominantly Roman Catholic. There is a high degree of cultural cohesion based on a Hispanic-Catholic identity.

The standard of living is low. The gross national product (GNP) per capita in 1979 was US\$547, which was smaller than that of any other Central American republic or of any Caribbean island apart from Haiti. There is unequal land distribution. Some 76 percent of families living in rural areas own no more than 12 percent of all agricultural land. Many own no land at all. This poverty, together with the high population growth, has created precarious socioeconomic conditions which constrain the development of education, yet make it important that the educational system should make a major contribution to economic growth.

The economy is primarily agricultural. The major export is bananas whose output accounts for about 20 percent of GNP. Production occurs in plantations owned and run mainly by the foreign-owned United Fruit and Standard Fruit and Steamship companies. The other export crop—coffee—is produced by Honduran smallholders. The majority of the labour force is employed in agriculture, either in plantations or in smallholdings. The labour force is distributed as follows: 62.8 percent in the primary sector; 13.3 percent in the secondary sector; and 23.9 percent in the tertiary sector.

While Honduras is self-sufficient in food, the agricultural sector is not structurally equipped to produce the economic growth needed to alleviate the widespread poverty. The gross national product per capita grew by only 0.4 percent per annum between 1970 and 1978, one of the lowest growth rates in the world. Industrial development is very limited and confined mainly to import substitution.

Honduras gained independence from Spain in 1821. After a short period as a member of the Central American Federation, Honduras became an independent sovereign state in 1841. Since then, periods of parliamentary government have alternated with phases of military rule. The country has had 16 constitutions. The 16th Constitution (1965) provided for an elected executive president. After a military coup in 1978, Honduras began to return to civilian democratic rule in 1980, when elections were held. The country is divided into 18 departments and a central district. Though the departments are subject to the control of the central government, each is administered by a governor.

1. Aims of the Educational System

The official aims of education can be found in sources such as the 1966 Organic Law on education and the report of the 1973 National Commission for Educational Reform. As well as general objectives, such as the strengthening of national unity, the inculcation of democratic principles, and the teaching of respect for the

individual, priority has been given to the provision of educational opportunities for each Honduran in line with his or her interests and capabilities; to equipping students to find social and economic roles on the completion of education; and to allowing students to change from one to another course of studies as their abilities and weaknesses emerge.

2. Structure of the Educational System

There are four levels of education. Three grades of preprimary schooling are provided for children aged 4 to 6. Primary education consists of six grades and is free and compulsory for children aged 7 to 14. Secondary education is provided for pupils of 13 and above and is divided into two cycles. The common cycle lasts three years. It is followed by a diversified cycle lasting two or three years with branches in general and vocational education (including primary-teacher training). Higher education includes the National Autonomous University of Honduras, which has courses of five to seven years, and nonuniversity institutions specializing in secondary-teacher training, welfare services, and agriculture, which provide three-year courses.

Preprimary education is not compulsory and is provided only for a minority. In 1979, about 5 percent of children in the 3–6 age group were enrolled. In 1960, only 1.2 percent of children were in kindergartens compared with 3.5 percent in 1975. Over 80 percent of preprimary places are in government schools.

Primary education has been free and compulsory by law since the late 1800s. However, universal primary education is far from a reality. In 1979, 89 percent of the 7–12 age group were in primary schools (92 percent of boys, 85 percent of girls). This compares with 56 percent of the 7–13 age group in primary schools in 1960. In rural areas, participation rates are lower and complete primary schooling is often not available. One of the major obstacles to universal primary education is the high dropout rate, especially in rural areas. In 1975, while about 80 percent of primary-school children in rural areas were in the first three grades of the six-year course, only 4.5 percent were in the final grade.

In 1978, 21 percent of the 13–17 age group were in secondary education. Participation rates increased rapidly in the 1960s and 1970s. In 1970, 14 percent of the age group were in secondary school, compared with 4.3 percent in 1966. However, provision in rural areas is very sparse, while in towns most secondary education takes place in private schools. There is almost equal participation of boys and girls though, in part, this can be explained by high female enrolments in primary-teacher training. Retention rates in secondary education, except in vocational studies, are also considerably higher than in primary education.

Some primary and secondary institutions are public or official (entirely controlled and supported by government), some are private but government aided, and others are totally private. While most primary schools

are government schools, the majority of secondary schools are private but government aided.

Enrolment in higher education grew considerably in the 1970s. The proportion of the 20–24 age group in higher education rose from 4.6 percent in 1975 to 8.0 percent in 1978. This figure is close to, though a little below, the average for Latin America.

Adult and nonformal education is mostly of three types:

- (a) Literacy programmes (the illiteracy rate for people over 10 years old was around 40 percent in 1978) include the four-year accelerated primary-education course for adults over 18, established by the Ministry of Education in 1972. Places in literacy courses are also provided by other government ministries and by private industrial, commercial, and religious enterprises.
- (b) Agrarian education and community development programmes are run by diverse public and private institutions, including various ministries, semi-autonomous government bodies, international agencies, and private bodies.
- (c) Vocational courses for a variety of occupations are again provided by a range of organizations.

The diversity of provision makes it difficult to assess total participation rates in these programmes.

3. Administration and Finance

The Ministry of Education controls all preuniversity education and secondary-teacher training. Other non-university higher education is administered by different government ministries while the university is self-governing but government financed.

Educational legislation is enacted by the popularly elected national congress. The Ministry of Education implements policy. There are four general directorates (for primary, middle, vocational and technical, and art and cultural education), as well as special directorates concerned with administration and personnel. The minister is advised also by the Office of Educational Planning and the National Commission for Educational Reform.

The educational system is highly centralized. There are no local or regional agencies with effective power. However, local, regional, and national civil authorities can make representations on educational matters to the Ministry of Education. In the late 1970s, plans were introduced for greater regionalization in decision making.

Educational expenditure in 1979 represented 1.34 percent of total government spending and 3.5 percent of GNP. These figures have not changed significantly in the 1970s. In 1970, 18.4 percent of total government spending and 3.1 percent of GNP were devoted to education.

The allocations in the government education budget in 1979 were disproportionately high for primary and higher education and low for secondary schools. Some 56 percent of expenditure went to primary schooling and 18.2 percent to higher education, compared with 15.9 percent to secondary schooling. The proportion devoted to secondary education has changed little (it was 15.4 percent in 1970) while the allocation to higher education has increased (from 12.2 percent in 1970) and the proportion spent on primary schools has fallen (from 64.2 percent in 1970). Though a high proportion of secondary schools are private, most resources come from government. In 1975, 97 percent of total funds spent on education came from government sources.

4. Teacher Supply and Education

There is a shortage of teachers at primary level. The pupil/teacher ratio at this level was 41:1 in 1978, which represented a worsening of the position since 1970, when the ratio was 35:1. However, more primary teachers are now trained than 10 years ago. The ratio for secondary schools in 1976 was more favourable at 22:1, but only slightly more than 20 percent of teachers were qualified for the level they were teaching. A high proportion had primary-teacher training. The introduction of diversified secondary education has created difficulties in obtaining fully qualified teachers.

Primary-school teachers are trained for three years in normal schools which recruit students from the end of the first cycle of secondary education. Their education is of upper-secondary level. The *Escuela superior del Profesorado*, established in 1956, provides three-year training courses for secondary-school teachers at post-secondary level. It also runs courses for administrators and teachers inservice. Nevertheless, many secondary-school teachers will have had a university education in fields related to those they teach in schools.

5. Curriculum

The Ministry of Education determines curricula, subjects, timetables, content, and textbooks. These are uniform for the whole country. A committee within the Ministry of Education, established in 1967, with representatives of each level of education, is responsible for proposing curricular changes.

The primary-school curriculum focuses on basic skills and also includes health and physical education, arts, and industrial and agricultural activities. An attempt to introduce more practical work has been made. Since 1968, the secondary-school curriculum has been reformed. In the first cycle, students follow courses in general and scientific education (Spanish, civics, art, a foreign language, social studies, music, physical education, mathematics, natural sciences) but also have to choose an area of practical activity from the indus-

trial, commercial, home economics, and agricultural fields which takes up about 15 percent of their time.

The diversified second cycle was introduced from 1967. Separate streams in industrial and agricultural studies were initiated alongside the traditional general education and teacher-training courses. Some programmes are intended to train skilled manual workers. However, most students still choose the general-education or teacher-training options.

The major obstacles to curricular reform may be seen to be the low levels of education and training of teachers at both primary and secondary levels. While the low social status of primary teachers is a constraint on teacher-centred curricular innovation, the lack of developed teacher-training institutions also contributes to teacher passivity. However, initiatives to relate the curriculum to new vocational and economic priorities are also threatened by the high popular esteem still accorded to traditional academic and professional fields of study.

The traditional faculties—law, medicine, and engineering—have predominated in the university, though the growth of nonuniversity centres together with changes in the university meant that by 1978 the most popular fields of study in higher education were engineering (5,881 students), business (5,680 students), medicine (3,194 students), social sciences (3,108 students), and law (2,103 students).

6. Examinations and Promotion

Examinations at both the primary and secondary levels are conducted by each individual school and are based on continuous assessment. Traditionally, promotion from grade to grade has been related to a student's academic performance, but, in primary schools, transfer through the grades was made automatic in the early 1970s to improve retention rates.

Admission to secondary schools was traditionally dependent on performance in primary schooling (with a mark of 3 on a scale of 1–5 required for selection) or an entrance examination. But, by the early 1970s,

almost all those completing primary schooling who wanted secondary education gained places in either government or private schools. Selection to the different branches of the second diversified cycle has been based on vocational guidance in the first cycle and again is school centred. Assessment leading to the award of the title of *Bachiller* at the end of full secondary schooling is also school centred and based on continuous assessment.

At the university level, assessment is carried out by yearly faculty-centred examinations. However, failure and dropout rates are very high. In the early 1970s, less than 10 percent of students completed their course successfully. This position had hardly improved a decade later.

7. Major Problems

The goals propounded by the National Commission for Educational Reform in 1973 envisaged the creation of an active, cohesive, and scientifically minded people whose new attitudes would transform a traditional, poor, and passive society. Some reforms in curricula and in the structure of the educational system have reflected these aims. But the pressures of population growth, the scarcity of resources, the poor quality of much existing provision, and the prevalence of traditional attitudes place formidable obstacles in the way of achieving these objectives. Such is the influence of these constraints that there are major difficulties in maintaining existing achievements quite apart from making further progress.

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Hong Kong

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Hong Kong is situated just within the northern tropics, off the south coast of China, occupying a territory partly ceded and partly leased to the United Kingdom. It has an area of 1,060 square kilometres (410 square miles) of which only about one-sixth is built-up land. The population, with a density amongst the highest in the world, was estimated to be 5.364 million in 1984. The natural growth rate of the population is low for Asia at about 9.6 per 1,000, though immigration, legal and illegal, has recently, as on successive occasions in the

past, added to housing problems. Partly because of the pattern of young-adult immigration and partly because of the success of birth-control measures, the population is not grossly underage, just about 40 percent being below 35 years old and 23.5 percent below the leaving age for secondary education, 15 years.

Regarded as an economic miracle, having few natural resources except its human talent and industry, Hong Kong achieved in the early 1980s a growth rate of about 11 percent, until 1984 when political uncertainties over

the future of the territory disrupted the economy. Land and property values which had been amongst the highest in the world and which had acted as collateral for large business loans, plummeted; the vulnerability of the free economy to the flight of capital was exposed and the Hong Kong dollar slid in world markets. The conclusion of an agreement between the United Kingdom and the People's Republic of China, restoring the sovereignty of Hong Kong to China in 1997 and guaranteeing a continuation of the social and economic status quo for 50 years after 1997, within a virtually autonomous system of government, reduced public anxiety. The prompt action of the Hong Kong government in linking the Hong Kong to the US dollar further stabilized the economy, which revived to achieve a 9.6 percent growth.

The phrase, so often repeated by the Chinese and British negotiators, "to maintain the stability and prosperity of Hong Kong", underlined their fears over the fragility of the territory's economy. They recognized that its strength lies in its adaptability, to which freedom from financial controls, low taxation, and its free-port status contribute. However, the limits of the freedom to develop political activity and representative government are now being tested in the drafting of the "Basic Law", which will interpret the agreement in terms of the constitution of the People's Republic of China and set the framework for the political institutions of Hong Kong, as a Special Economic Zone. The resolution of this issue will determine whether "one country, two systems" is a workable proposition.

Some 99 percent of the people of Hong Kong are ethnic Chinese, the majority of these being first-, second-, or third-generation immigrants from Guangdong Province, where Cantonese is the prevalent dialect. Although there are other dialects spoken in homes and in small communities, Hong Kong's own lively brand of Cantonese is the dominant medium of communication. English and Chinese are both official languages, but English is generally usable only as a medium for secondary- and tertiary-level study, for international commercial transactions, and for tourism. Cantonese suffers the disadvantage of being only indirectly a written language. The writing system, employing Chinese characters, is really an adapted form of the Mandarin dialect which usually does not match the spoken Cantonese in word order, in syntax, in lexis, or in phonology.

The present system of government is best described as a bureaucracy but, in Hong Kong, bureaucracy is a matter for professional pride. A governor, appointed by the British government, presides over a legislative and executive council, each made up of leading civil servants and members of the community, some nominated by the governor to represent a wide range of public influence and others elected indirectly by district boards and "functional constituencies". This semi-autonomous form of government which permits internal self-management and commercial, but not diplomatic,

external independence, is a well-trying British system of colonial devolution. For the most part, the people of Hong Kong who are entirely free to express their views, except by holding unapproved large public meetings, have shown themselves to be content with their political situation. The mild system of elective representation now in force has awakened a greater degree of interest, but proportionately low levels of involvement.

1. Structure of the Educational System and its Development

The long tradition of an erudite Chinese culture grafted onto a colonial system which rewarded educational accomplishments with government employment has produced a popular hunger for education, infrequently matched in other parts of the world. Together with a belief in the virtue of hard work as a principal ingredient of study and a disdain for Western notions of individual differences in intelligence, this hunger results in strong family support for schools and for the progress of students as far through the system as it will permit them to go. Consequently, much of government's planning for education is influenced by the need to phase its expenditure to meet the intense pressure of the public for improvement of provision at all levels from nursery school through to university. Access at primary and secondary levels has been the first preoccupation, with tertiary levels lagging behind except for the specifically technical and vocational sectors. Increasingly, attention has turned to improving the quality of schools, teaching, and curricula and to extending opportunities for the lower income groups and for the disabled.

A common feature of education in British colonial territories has been the sponsorship and management of schools by religious bodies and other benevolent voluntary agencies. Because of this tradition and because the Hong Kong Government had neither the resources nor the wish to embark upon the provision and administration of education for the masses, it was content in the century of its colonial custodianship up to the end of the Second World War to leave the responsibility for education largely in the hands of the voluntary bodies. After the war, the influx of population and the ready market for education led to profitable ventures by private companies and individuals in setting up schools, encouraged by government.

While the reliance upon private education of a profit-making nature has become less acceptable, the pattern of dependence on management by voluntary agencies has increased and, of the 537,000 children in primary schools in 1985, only just over 37,000 were in government schools. All kindergarten schools are still operated privately. At the secondary level, the picture is similar in that, of the enrolment of 401,200 up to form 5 (grade 11), only 31,400 are in government schools (see Figs. 1 and 2).

Formal and free education begins at the age of 6 and continues up to the age of 15. During this period,

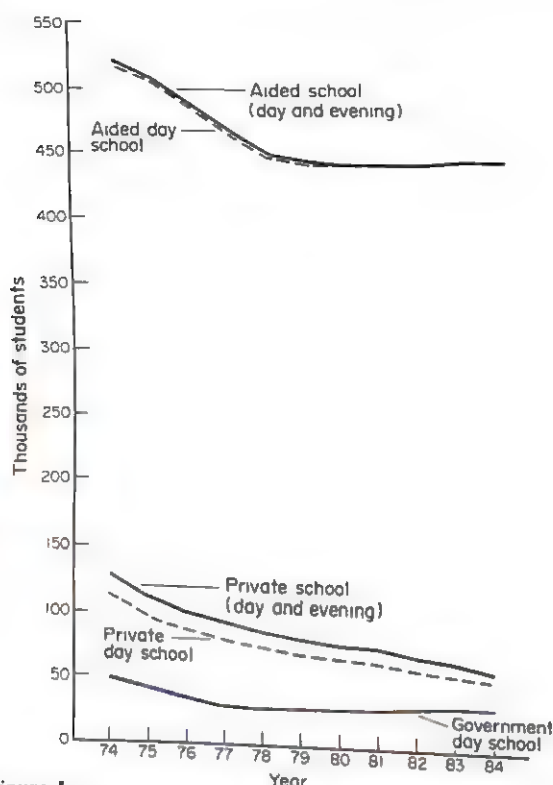


Figure 1
Enrolment in primary schools 1974-84

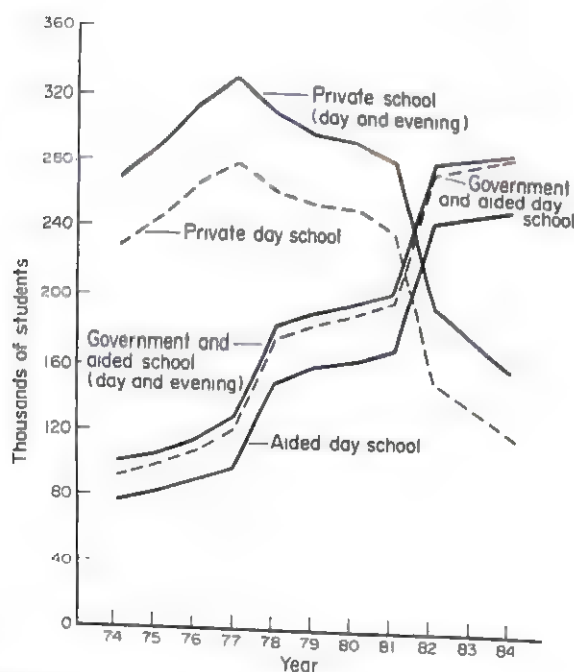


Figure 2
Enrolment in secondary school (excluding matriculation courses) 1974-84^a
^a 36 assisted private secondary schools have become fully aided with effect from 1978-79

Table 1

Overage enrolment by one or more years, September, 1984

Primary grade	% overage	Secondary form	% overage
1	6.5	1	35.0
2	8.4	2	36.4
3	18.2	3	36.7
4	24.5	4	40.7
5	26.8	5	51.9
6	29.1		

attendance is compulsory, although enforcement has rarely been necessary. Up to the age of 11, enrolment ratios are as close to one as could be expected in any society. However, there have been signs that schooling is becoming less attractive and voluntary dropout is taking place. In 1981, 99 percent of all 12-year-olds were enrolled in school, 98 percent of all 13-year-olds, 94 percent of all 14-year-olds, 80 percent of all 15-year-olds, and 67 percent of all 16-year-olds.

Although the rate of repetition is controlled by regulation, its progressive effect brings about an increasing proportion of overage candidates as grades ascend. The problem is exacerbated by late entry (often resulting from immigration) and by movement of children between schools to escape what parents may consider premature promotion to the next grade. In September 1984, the percentages of students in each grade who were overage by at least one year were as given in Table 1.

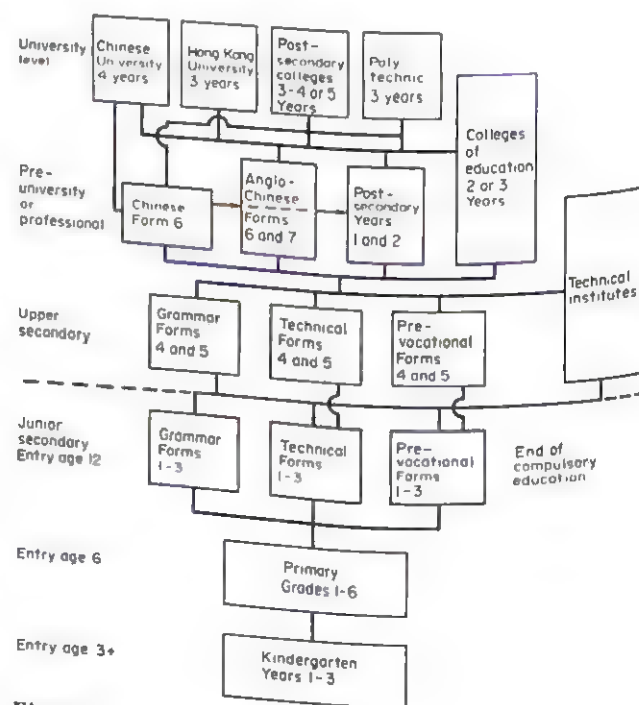


Figure 3
Structure of the educational system

Table 2
Enrolments as percentage of cohort at each level

Level	%
Kindergarten	85-90
Primary	99
Forms 1-3	96
Forms 4-5	60-70
Forms 6-7 and postsecondary	8-10
University and polytechnic	3-4

The structure of secondary education, as Fig. 3 shows, embodies a 3 + 2 + 1 or 2 year system. The first three years are normally of a general academic nature structured around a common core curriculum. However, the popularity of prevocational schools, which only in 1982 extended their grades beyond form 3, has been growing. These schools cover many of the manufacturing and service trades represented by Hong Kong's industry and commerce. Nevertheless, the academic route is still dominant. In 1985 there were 406,816 students enrolled in grammar schools compared with 25,556 in technical and prevocational schools and commercial schools.

Promotion between grades is intended to be automatic at the primary level, but slippage occurs and attitudes towards grade promotion are relaxed, in contrast to the frenzy surrounding transition between levels. The fervour of competition is only mildly indicated by the percentages shown in Table 2.

2. Efforts Towards Educational Development

The stress of life in this highly populated territory heightens the educational competitiveness and perpetuates the belief that educational achievement will bring sure and continuing prosperity to students and their families. The Hong Kong Government has tried to combat unhealthy struggle for educational privilege.

Centrally set examinations for entrance to secondary schools were first introduced to counter unfairness in the distribution of subsidized places, but these were replaced by a system of allocation according to scaled primary-school assessments in 1978, when secondary school places were made available to all. Realizing that this system is in its turn biased by primary-school catchments, government has implemented a scheme to allocate children to primary schools, which frees the assignment of places from privilege and from competitive examination. The success of this process in avoiding socioeconomic bias can be judged from the recently reported study of mathematics achievement (Brimer and Griffin 1985) in which the socioeconomic structure of the unselected first-year secondary sample was shown to match that of the highly selected sixth-year sample.

At the tertiary level, university places are still well below the numbers arguable from the numbers of quali-

fied school-leavers and, at less than 3 percent of the age cohort, the numbers are low by international standards. The government is cautious in its planning, warned by the contraction of higher education in the West and noting the dependence of Hong Kong's economy on manufacturing and on financial enterprises, which suggest a strong vocational and technical component in higher education. Consequently, it has launched two successful polytechnics modelled on British lines. It has also given a share in public subvention to some postsecondary colleges, which offer tertiary-level courses complementary to those in the universities and the polytechnics. It is planned to offer first year, first degree places to 6 percent of the mean of the 17-20-year-old cohorts by 1991 and to raise this to 8 percent by 1994.

3. Finance

Education has always been regarded as a partnership between the public and private sectors in Hong Kong. Since 1974, the public-sector contribution has been growing, although it has remained at a relatively stable proportion of total government expenditure. In other words the greater public contribution has been made possible by the increase in government revenue, largely achieved by the overall economic growth and with only slight changes in the revenue base. Despite this growth in government intervention in education, the private-sector contribution is still large. In 1985-86, total government recurrent expenditure on education was US\$837 million and represented some 17 percent of total government expenditure. The total government expenditure in 1980-81 on primary education was US\$190.5 million whereas secondary expenditure was US\$180.5 million and on the universities and polytechnic US\$117 million.

Remembering that education is free up to the end of form 3 and subsidized beyond that, the level of annual fees for forms 4 and 5 (grades 10 and 11) was US\$104.3 and forms 6 and 7 (grades 12 and 13) US\$139. However, fee-remission schemes are available in the public-sector secondary schools which virtually guarantee that no student in need would be denied a place. Fees at the level of higher education represent a heavy subsidy, being only US\$356.5 in 1980-81 at each of the two universities and US\$174 at the polytechnic. Grants and loans are available to tertiary-level students to support both maintenance and fees. In practice fee income represented less than 7 percent of total expenditure on university education.

When assessing government contribution to education as a whole, it should be noted that the value of government efforts when estimated by United States dollar equivalents of the Hong Kong dollar is subject to fluctuation in currency values which is not necessarily reflected in the internal costs of education. In the decade 1974-84 the Hong Kong dollar lost ground against the United States dollar. Nevertheless, expenditure on edu-

cation has risen since 1974 from US\$222.4 million to US\$1 billion in 1985-86. As a percentage of total government expenditure, that on education has remained reasonably constant, falling only slightly from 1974-75 when it was 17.6 percent to 1985-86 when it was 17.4 percent. Since government revenue is closely related to gross domestic product (GDP), expenditure on education as a percentage of GDP follows much the same trend as when expressed as a percentage of total government expenditure. In 1974-75, it was 2.83 percent and in 1980-81 just over 3 percent.

4. Administrative and Supervisory Structure

Until 1981, the Government Education Department was administered within the social services branch of government which also covered social welfare and liaised with the University and Polytechnic Grants Committee. In 1981, an education branch was set up with the purpose of allowing policy making and the formulating and monitoring of educational programmes to be separated from the day-to-day administration of education. A further reorganization created an "education and manpower" branch bringing together primary, secondary, and higher education and technical, commercial, and industrial training within the same policy management arm. The Secretary for Education and Manpower is the chief spokesperson on government policies on education.

The Director of Education is the chief executive of the Education Department and supervises the administration of education over the entire territory. The Director has responsibility for all schools whether or not they are government-subsidized and for postsecondary colleges but not for the universities, the polytechnics, industrial training, or public examinations. The staff who assist him and who are government servants are the teachers in government primary and secondary schools, the lecturers in the colleges of education and technical institutes, the staff of the advisory inspectorate, and those concerned with administration. Supervision of schools is maintained through three regional divisions which are further subdivided into administrative areas and they in their turn into districts. Though district councils exist for certain purposes of secondary-school allocation, they are advisory and have no direct relationship with the administration of schools.

The most important agencies in the direct administration of schools are the sponsoring bodies. These voluntary nonprofit-making organizations form management committees which operate the schools and control expenditure of funds received from government. In the past they also assumed major responsibility for school building but now, while they still retain a share of the initial capital expenditure, it is small and in some cases nil. The day-to-day responsibility for the management of a school is undertaken by the principal and the supervisor who may in certain cases be the same person. In order to represent their joint interests, the

sponsoring bodies group together in councils where the principal normally represents the school.

The Governor of Hong Kong is advised by a statutory body which he appoints and which is known as the Board of Education. Membership of the Board is voluntary and the term of service is variable, commonly one or two years though there are some long-serving members. The membership is drawn from schools, higher education institutions, sponsoring bodies, and from the community at large insofar as the individuals have demonstrated an interest in education and training. For the most part the Board advises on matters referred to it but has on occasions initiated themes of discussion, one of which led to the institution of an overall review of education undertaken in 1981-82 by an independent commission appointed after consultation with the Organisation for Economic Co-operation and Development. The affairs of the Board are confidential and its deliberations are not reported to the public. The Board offers advice directly to the Governor conveyed to him through the Director of Education who, together with a representative of the education branch, is one of the few government servants sitting on the Board. One of the results of the report of the independent commission was the setting up of a coordinating body known as the Education Commission, which brings together the chairpersons of the Board of Education, the University and Polytechnic Grants Committee, and the Vocational Training Council, to comment on government plans for education.

5. Educational and Professional Qualifications of Teachers

The colleges of teacher education, which are administered and staffed by the Education Department, are responsible for all nongraduate teacher education. A minimum level of qualification for entry to the colleges is a good academic performance in the public examination known as the Certificate of Education, taken at form 5 (grade 11). For such entrants there is currently a three-year full-time course leading to the Certificate in Education which is both a professional and an academic qualification. A higher level of entry is available for those who complete form 7 (grade 13) and who have successfully taken the advanced-level examination. The latter are allowed to qualify after only two years of full-time education.

The staffing of primary schools is at the nongraduate level. Of the 18,000 teachers in primary education in 1983, only 3,000 were unqualified and of these over 1,500 were in private schools. The staffing ratios of secondary schools allow the nongraduates to teach up to the end of form 3 (grade 9) and from form 4 onwards mostly graduate teaching is employed. Graduate teachers have undergone a university education for at least three years and have acquired a recognized degree. Their undergraduate studies would normally not include

any professional preparation for teaching, which is provided by the two universities through postgraduate courses, mainly inservice. Because so much secondary education was formerly private, and professional qualification was neither required nor rewarded, it is less common amongst teachers than at primary level. Of the 6,200 nongraduate teachers in secondary schools in 1983, some 2,200 were professionally unqualified, and of the 10,800 graduate teachers 5,300 were unqualified.

6. Curricula

As in every other aspect of educational activity in Hong Kong, the language problem looms large over the curriculum and teaching/learning processes. Reading development is slow because of its dependence upon the acquisition of Chinese characters, but the terrors of dyslexia and backwardness in reading are virtually unknown amongst those learning to read in Chinese in Hong Kong. The limitations of reference that a restricted character set imposes upon textbooks is principally that it denies access to the easy adaptation of texts published elsewhere.

At the secondary level, many of the texts are in English even when lessons are being conducted in Chinese. Curriculum development has been hindered by inadequate resources, by a dependence upon part-time voluntary activity, and by a confusion of syllabus with curriculum. Curriculum development is undoubtedly the weakest area in Hong Kong education.

Teaching styles are conservative in Hong Kong and the commonest mode is of teacher talk and pupil inactivity. Memorizing and recall are amongst the most highly valued mental processes and are revealed early in a student's career in his or her grasp of Chinese characters. As if the opportunity to use a form of symbol manipulation which was free from the complexities of natural language gave a form of release, students (both male and female) excel in, and enjoy, mathematics. Classes are large, normally of about 40 pupils at primary and lower-secondary level, falling to as low as 20 at the upper end of secondary school. Buildings are adequate but suffer from noise pollution to a degree that elsewhere would prevent education from being attempted. Patient industry and concentrated attention enable the Hong Kong student to survive, driven on by the fear of failure in the public examination and of being humiliated by taking back an unfavourable report to the parents.

The main instrument of curriculum control is the textbook which mediates syllabi recommended by the curriculum development committees set up by the Government Education Department. Such syllabi are related to the public examinations taken during forms 5, 6, and 7. Thus, it is the examination syllabus which determines how comprehensive the textbook must be since schools are committed to the notion that a textbook must satisfy all content areas of the syllabus, whether optional or not.

7. Examinations

A semiautonomous examinations authority administers all public examinations. The examination with the widest coverage and the largest candidature (the Hong Kong Certificate of Education) is taken at the end of form 5. In 1985, when 39 syllabi were examined, the entry was 118,000. At the end of form 6 some students take the Higher Level Examination which was formerly the matriculation examination for admission to the Chinese University of Hong Kong and this in 1985 had a candidature of 11,500. The Advanced Level Examination taken in form 7 was formerly the matriculation examination for admission to the University of Hong Kong and the candidature in 1985 was 18,300. The examinations authority also acts as the agent for the administration of overseas examinations such as the (British) General Certificate of Education.

8. Educational Research

Educational research has had a checkered history in Hong Kong, being most in evidence in the universities in the 1960s and early 1970s. At best, it has been a part-time activity and the main problem which has survived into the 1980s has been the shortage of suitably qualified personnel with sufficient motivation to carry on educational research. This problem is being overcome with the development of new courses in the universities. An educational research establishment of the Government Education Department, formerly concerned with routine testing, has now been staffed and equipped to carry on research into the operation of the educational system. The School of Education of the University of Hong Kong became a member centre of the International Association for the Evaluation of Educational Achievement (IEA) in 1979, has completed its report on the Second International Mathematics Study, and is engaged on the Second Science Study. In 1984 a Hong Kong Educational Research Association was founded.

9. Major Problems

The external review body appointed by the government in 1981-82 reported on the state of education and identified priorities for attention. It considered that having tackled successfully the quantitative problems of education at the primary and secondary levels, attention must be directed to improving access to education at the tertiary level and the quality of education in the primary and secondary schools. A major problem throughout the educational process was the language of instruction and the search for a solution was given high priority. The quality of teaching was considered to deserve focal attention not only in relation to the language of instruction but in terms of initial professional preparation and inservice education. One of the most serious defects of Hong Kong's education was seen to be its competitiveness and its dependence upon systems

of "sorting and sifting" in the ever narrowing routes to higher education. At the administrative level, weaknesses were seen in the detailed and often petty attention to conformity with rules and regulations at the expense of pursuing planned goals in a progressive manner. In 1983 the Legislative Council endorsed in principle the criticisms offered by the overall review and the recommendations proposed.

Within the limits of an unsteady but reviving economic movement towards 1997 which offers a future in which some uncertainties remain, the Hong Kong Government proposes to follow the advice it has been given.

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Hungary

Z. Báthory

Hungary is a small Eastern European country in the Danube Valley surrounded by the Carpathian Mountains. Its territory covers 93,030 square kilometres (35,918 square miles)—about 1 percent of Europe. The Danube River separates the eastern plains from the hilly region in the West.

The Carpathian basin was occupied by the Magyar tribes in the tenth century. After the adoption of Christianity, the independent Hungarian kingdom played a decisive role in this part of Europe for a long time. The climax of the country's economic, political, and cultural development was reached during the reign of Matthias I Corvinus, in the fifteenth century. Soon after this, Hungary became a buffer state between the expanding

Ottoman and Hapsburg empires. In 1526 it was conquered by the Turks, who were expelled after 150 years; their rule was followed by a Hapsburg domination which lasted until the end of the First World War. Several patriotic revolutions were launched against the Hapsburg dynasty, but all failed. The Austro-Hungarian monarchy existed from 1867 to 1918. The Versailles peace treaty—based on ethnic principles—reduced the territory of Hungary substantially. Between the two World Wars economic development advanced slowly but the ruling semifudal regime hindered social progress. The Second World War devastated the country. After the end of the war (1945) a rapid process of democratization was started: the large estates were

distributed to the farmers, the factories were nationalized, and similar basic changes took place also in the cultural sphere. The socialist revolution followed (1948). Contemporary Hungary is a socialist country which has many political, economic, and cultural relations with both developing and Western countries and with other Socialist countries.

Industry is regarded as the most important sector of the Hungarian economy. Owing to recent developments, industrialization has been rather rapid since the Second World War. However, the Hungarian economy—partly for historical, partly for geographical reasons, such as the shortage of mineral resources and the country's surface and climate—still has an agricultural character. Nonetheless, since the 1960s a modern agriculture has grown up. The services sector, having been marginal for a long time, has enlarged considerably in the same period. The statistical data of the 1970s emphasize the following trends in economic development.

- (a) The size of the workforce has been fairly constant. This means that economic growth, which has been promoted for a long time by the recruitment of new labour force, is going through an intensive phase. It is worthwhile mentioning that, in 1979, some 47.5 percent of the total population was gainfully employed; the proportion of women was 44.4 percent.
- (b) The distribution of personnel in the three main economic sectors indicates a slow process of restructuring (see Table 1): the number of workers in agriculture is slowly decreasing, and those in the services slowly increasing, while in industry it is fairly steady. Since 1945, there has been no unemployment.

The population in 1979 was nearly 1.5 million more than in 1949. Apart from steady, slow growth, two demographic excesses happened in this period: the first in the early 1950s and the second in the mid-1970s. Both in the early 1950s and the second in the mid-1970s. Both demographic "waves" were induced to a large extent by demographic considerations: in the 1950s, industrial-labour-force considerations; in the 1970s, the industrialization required more labour and, in the 1970s, the rather low percentage of the gainfully employed gave rise to concern. Needless to say, these demographic irregularities seriously affected schooling.

Table 1
Numbers and distribution of active population 1971-82 (in 1000s)

Economic sector	1971	1976	1979	1982
Agriculture	1,225.8	1,059.1	1,029.5	1,052.8
Industry	2,160.5	2,209.2	2,147.1	2,002.9
Services	1,624.0	1,824.9	1,904.4	1,946.2
Total	5,010.3	5,093.2	5,081.0	5,001.9

Table 2
Numbers and distribution of the population

Year	Numbers (in 1,000s)	Capital (%)	Other urban (%)	Rural (%)
1949	9,205.0	17.3	21.1	61.6
1960	9,961.0	17.9	26.4	55.7
1970	10,322.1	19.4	30.1	50.5
1975	10,509.0	19.6	32.3	48.1
1979	10,698.8	19.6	34.2	46.2
1983	10,700.2	19.3	36.5	44.2

The distribution of the population is unequal (see Table 2): Budapest, the capital, and the industrial regions are densely populated but in the countryside the population is generally sparse. By 1983 about 56 percent of the population lived in urban areas whereas in the 1950s only 38 percent lived in cities.

For a long time the capital had been the main target of population migrations. From the mid-1960s, however, they started to turn towards other urban centres. As a consequence, the image of Budapest as the only large city in Hungary changed.

From an ethnic point of view, the population is homogeneous: 96.6 percent are Hungarians. Ethnic minorities include Germans, Slovaks, Serbo-Croats and Romanians. About 3 percent of the population are Gypsies who are not considered an ethnic minority.

1. Goals of Education

In order to understand the current trends in educational thinking and policy one has to bear in mind the following historical, social, and economic considerations.

- (a) Marxist philosophy exerts a strong influence on all aspects of educational activity, especially on the setting of objectives and determining of general policies. Personality development is a fundamental and widely accepted objective of Marxist pedagogy.
- (b) Culture and education enjoy high esteem in Hungary. The cultural heritage goes back more than a thousand years. The first act relating to public education was adopted as early as 1777 (*Ratio Educationis*). Public education was introduced in the middle of the last century (1868). This law prescribed compulsory schooling for all children between 6 and 12 years of age.
- (c) Education is considered the main channel for social mobility. It is widely argued and accepted that existing social differences should be compensated (at least partly) by schooling.
- (d) The planners of educational policy have become more and more aware of the interrelation of economic growth and education. It is believed that in order to develop the economy, ensure its flexibility, and increase its productivity, present educational

thinking should overcome simplistic views on labour planning.

- (e) Lastly, the rapid scientific-technological revolution of our age is an ever-recurring issue in Hungarian educational debates.

In sum, public education is based on the principles of Marxist philosophy and on the cultural heritage. Public education is required to be a medium of social mobility, to increase economic growth by emphasizing general education, as opposed to vocational training, and to cope with the challenge of the scientific-technological revolution. These issues make up the background of educational policy in Hungary. However, economic difficulties, demographic irregularities, marked urban-rural differences, and social problems created by industrialization and urbanization slow down the joint efforts of educators and researchers to modernize public education.

2. Structure of the Education System

The structure of the Hungarian system of public education, which has evolved since the Second World War is presented in Fig. 1. Shortly after the end of the Second World War, the comprehensive type of school, the so-called "general school" (*általános iskola*), was established. This school will remain the firm base of the Hungarian educational system for the foreseeable future.

The general school consists of eight grades for pupils in the age group 6-14 and is divided into an elementary and a lower-secondary part. There are class teachers in the four elementary grades and subject teachers in the four upper grades.

In rural areas, many small, mainly ungraded schools have been closed during the 1970s for the sake of improving the standard of teaching. In 1970, there were 5,450 general schools in the country, including 2,347 graded and 3,103 totally or partly ungraded schools. In 10 years the situation changed completely: out of 3,678 general schools, 1,115 were partly or totally ungraded. Children, whose families live in remote areas where

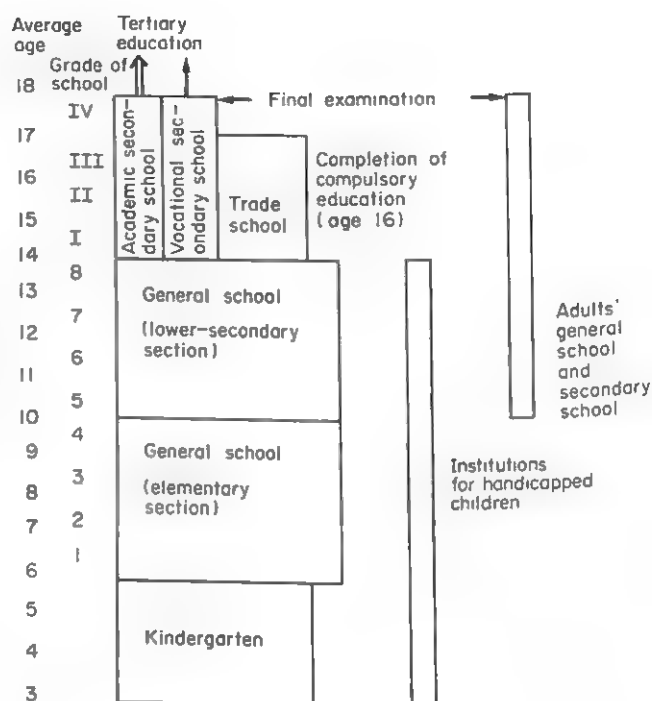


Figure 1
Structure of the public system of education

schools have been closed, use either transportation or—if they are older—live in student dormitories. However, the recently codified Act of Education makes it possible to re-open some small schools.

The general schools and the special schools for handicapped children enrol virtually the whole of any school generation. Since 1960, the rate of enrolment has fluctuated between 98.2 and 98.8 percent. There exists a great variety of special schools for handicapped children, catering for about 2.5 percent of an age group.

Table 3 contains the most important data on enrolment in general schools. A brief glance at the first and second columns reveals the consequences of the demographic waves referred to above. The table also shows the rapid development of kindergartens.

Table 3
Enrolment in general schools 1960-85

Academic year	Thousands of pupils in		Percentage of 1st graders coming from kindergarten
	General schools	1st grade	
1960-61	1,392.4	229.1	36.5
1965-66	1,413.5	161.5	46.1
1970-71	1,115.9	138.9	54.7
1975-76	1,051.1	155.6	71.4
1980-81	1,162.2	171.3	85.6
1984-85	1,286.7 ^a	171.9	90.0

^a Forecast

Table 4
Rate of retentivity in general schools 1965-84

Academic year	Percentage of pupils completing general school at		
	14 years	15 years	16 years
1965-66	77.6	87.5	90.7
1975-76	80.3	88.2	90.6
1979-80	84.3	90.6	92.1
1983-84	83.7	—	95.6

The retentivity of general schools is regarded as a very important political issue. The data in Table 4 present the rate of retentivity ever since the mid-1960s. Most pupils complete the eight grades in eight years, but some repeat a grade and complete the eight grades one or two years later. Compulsory schooling lasts until 16, and pupils who cannot complete eight grades by that age generally drop out. Some of them, however, take up schooling later, at an institute for adult education.

After the successful completion of general school, students may choose among three types of secondary school: academic secondary schools, vocational secondary schools, and trade schools. Nearly 90 percent of all general-school graduates continue to study in secondary school. Enrolment data for the secondary level are given in Table 5.

Academic secondary schools, or grammar schools (*gimnázium*), offer general education. They are a popular type of school among those who desire to continue learning at tertiary level and also possess the required ability. Students who are still undecided also choose this type of school. In general there are more girls than boys. The dropout rate is around 10 percent per year.

Secondary vocational schools offer general education and basic skills and practice in broadly defined vocational fields. These schools have a particular vocational orientation, for example, mechanical engineering, chemical engineering, animal husbandry, electronics, etc. The dropout rate in secondary vocational schools is around 17 percent per year.

Secondary vocational-school graduates may be admitted to tertiary-level education especially to the colleges and universities which fit their vocational orientation, or they start work. The latter can become skilled workers or technicians after a relatively short period of work.

Two-thirds of the students in higher educational establishments come from grammar schools, one-third from secondary vocational schools.

Trade schools train skilled workers. The accent is on specialized vocational education. They emphasize practical knowledge and skills. This type of school has three grades. Trade schools are regarded as schools at the secondary level of public education but they are not secondary schools in a real sense because there is no direct access to tertiary education. There are secondary schools for adults where young skilled workers take special courses and can pass the final examination of secondary schooling.

Most secondary schools are concentrated in the urban areas, although recently there has been a tendency to establish some grammar schools in the countryside. Some small cities have traditionally been famous for their grammar schools. In 1984, 175 grammar schools, 294 secondary vocational schools, 84 mixed secondary schools (having both grammar and vocational streams), and 359 trade schools operated in the country. Ten grammar schools belong to the churches.

Persons above the age of 16, who, for whatever reason, did not complete their schooling (e.g., dropped out of general or secondary school, attended trade school, etc.) and wish to take up their studies again, can choose among several kinds of adult institution. Evening and correspondence courses are particularly popular. In the school year 1982-83 more than 12,000 persons were registered at the workers' general schools and approximately 90,000 persons attended workers' secondary schools.

Higher education establishments are the colleges and universities. The number of students has increased slowly but steadily since 1970 (see Table 6). Most tertiary establishments also offer evening and correspondence courses.

Table 5
Enrolment at secondary level 1965-84

Year	Number of students completing 8th grade	Percentage of pupils admitted to			
		Academic secondary school	Vocational school	Trade school	Total percentage
1965	157,797	24.4	16.0	33.1	73.5
1970	165,611	18.5	17.7	41.1	77.3
1975	121,941	20.5	24.2	41.9	86.6
1978	116,101	20.0	26.0	43.4	89.4
1981	125,890	20.6	25.5	44.0	90.1
1984	135,013	20.7	25.9	43.9	90.5

Table 6
Establishments and students in tertiary education 1970-83^a

Academic year	Number of establishments ^a	Number of students	Number of students in evening and correspondence courses
1970-71	74	53,821	26,715
1974-75	55	63,100	40,290
1980-81	57	64,057	37,109
1982-83	56	63,057	37,284

a The decrease in the number of establishments is because some small colleges were integrated into universities or larger colleges

University life has traditionally been connected with the four large economic and cultural centres in the country: Budapest, Szeged, Debrecen, and Pécs, and this still holds true. However, now even small cities have the chance to establish and maintain colleges. Teacher-training colleges and universities train roughly one-third of all students involved in tertiary education.

The educational effort and the possibilities for educational training described thus far determine the formal educational level of the population. This can be considered the sum effect of education. *Formal* is emphasized in this context because the data given here express only quantity and not quality. Figure 2 presents the dimensions of education in the three educational stages (elementary, secondary, tertiary) from the viewpoint of three relevant age cohorts (from 1970, 1975, and 1980).

We can conclude that in 1980, owing to a slow and steady growth, 66.1 percent of a relevant age cohort completed at least elementary education (8 grades), 23.4 percent secondary education (12 grades), and 6.5 percent higher education.

3. Administration

Public education is administered on a dual pattern. Policy and legislation are the responsibility of the Min-

istry of Culture. The ministry—with the direct contribution and help of its institutions and agencies—is responsible for planning and development and works out the guidelines, principles, and framework for the administration of schools. The ministry also allocates finances from the state budget to the different sectors of public education. On the other hand, the maintenance of schools is a community task performed by the local educational authorities which operate as branches of local councils.

In Hungary all community issues are the responsibility of councils. The administrative units of councils are arranged in hierarchical order. The largest are the counties of which there are 19, plus the capital. Councils offer educational services to the community in a given area. This includes providing for teachers' salaries, appointing school directors and other leading personnel, building new schools and other establishments, etc. County councils maintain inspectorates that are responsible for the inservice training of teachers, the control of school activities, and the provision of educational services to schools.

The dual pattern has both advantages and disadvantages. It obviously promotes local efforts but at the same time increases the differences between schools. The local factor is generally regarded as important for promoting the democratization of public education.

4. Finance

The budget of public education amounts to around 4 percent of the national income per year. In 1960, the ratio was 3.2 percent, in 1970, it was 3.4 percent, in 1975, it was 3.9 percent, and in 1978, it was 4.2 percent. The division of resources per student and type of school shows rather marked differences between the different sectors of public education (see Table 7).

The rather high expenses in secondary and higher education include different social benefits (student hostels, dormitories, meals, scholarships, etc.). Regular support is given to approximately 80 percent of all students in higher education and to 40 percent in secondary establishments (1980).

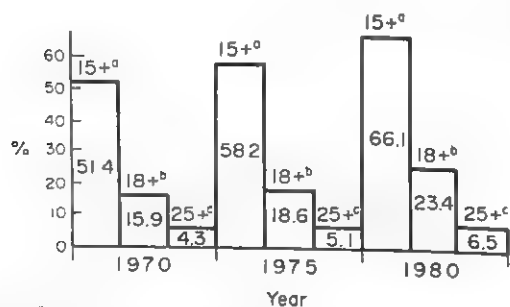


Figure 2
Development of educational level in three relevant age cohorts

a All those who are at least 15 years old and have completed 8 grades b All those who are at least 18 years old and have passed final examination of secondary education c All those who are 25 or more and are higher school graduates

Table 7
Expenses per student in different educational sectors 1960-83 (forint)

Year	Kindergarten	General school	Trade school	Secondary school	Higher education
1960	2,596	1,414	4,314	4,175	19,267
1970	4,379	2,713	4,955	5,878	29,367
1975	5,985	4,990	9,565	10,042	34,890
1978	7,207	6,529	13,231	13,585	45,782
1981	9,941	8,822	16,646	15,840 ^a	59,667
				19,973 ^b	
1983	12,000	10,536	16,732	14,577 ^a	66,741
				22,515 ^b	

^a Grammar school ^b Secondary vocational school

5. Educational Personnel

Teachers are trained and specialized for the various levels of public education (see Fig. 1). There are separate colleges for kindergarten teachers (two-year training), for elementary-grade teachers (three-year training), and for lower-secondary-grade teachers (four-year training). Secondary-school teachers are trained at universities (five-year training). Kindergarten teachers are also trained in secondary vocational schools. In 1980-81, altogether 20,430 students studied in teacher-training establishments (24 percent at universities and 76 percent in colleges).

The increasing number of teachers (see Table 8), together with other data, shows the extensive growth of public education in Hungary. However, owing to the demographic irregularities mentioned before, a serious shortage of teachers in general schools has occurred since the 1970s. As a solution, temporary employment was offered to secondary-school graduates. In 1970, some 5.1 percent of general school teachers had no tertiary education; in 1975, the proportion was 6.9 percent, in 1980, it was 3.8 percent, and in 1984 it was 4.0 percent.

Several problems have emerged in the 1980s in teacher training. It is often argued that the selection procedure for future teachers is based on exaggerated intellectual criteria and that teaching abilities play only a small role. It is also assumed that the separate colleges

and universities convey to their students different styles of educational thinking and practice. The educational content of teaching is severely criticized as well. Current experiments are aimed at building up a new unified but graded system of teacher training, combined with a thorough reform of its content. The first experiment will be started at the University of Pécs.

6. Curriculum Development and Teaching Methods

In Hungary, the concept *curriculum* has two meanings. First, it can be considered an educational document specified for a given type of school and containing all the general purposes and tasks of education. This meaning has a strong political undertone. Secondly, a curriculum may be conceived of as a document about a school subject, defining the contents and objectives of a given subject and describing some methodological aspects of the teaching of it. Here the term is used in its second meaning.

Curriculum is a central issue in Hungary. Curriculum reforms and minor changes are the responsibility of the ministry. Nationwide reforms were introduced in 1946, 1950, 1961, and 1978. This latest reform was finished in 1986.

Curriculum development and implementation is the task of expert groups working at universities and in

Table 8
Number of teachers in schools 1970-83

Year	Kindergarten	General school	Secondary level	
			Academic and vocational school	Trade school
1970	12,481	63,125	13,442	7,604
1975	20,512	66,861	14,078	8,703
1980	29,437	75,422	15,460	9,485
1983	28,820	80,798	16,357	10,823

educational institutes. The National Institute for Education (OPI) plays a central role in these activities. The members of inspectorates at the county councils and teaching staffs are also becoming more involved.

The strict central control in matters of curriculum has been relaxed from several viewpoints in the past few years. It is widely recognized that decentralization should be accomplished in matters related to teaching. This recent trend got reinforcement in the new Act of Education passed by the Parliament in 1985.

Curriculum research is an important branch of educational studies. As a result of this research new ideas have emerged. For example, most new curricula which have been developed since 1978 separate the content of teaching into a core and an additional part. The core is defined centrally and the additional part may be determined by the teacher. The additional part amounts to about one-third of the total content. Other innovations concern the application of taxonomies of objectives and evaluation procedures. There is a growing awareness among educational experts that drastic changes, or "frontal" reforms, in the content of teaching cannot cope any more with the needs of society. The strategy of permanent changes seems more promising.

Methods of teaching vary to a great extent depending upon objectives and content. Teachers are strongly encouraged to introduce new methodological elements and to be innovative. More and more educational media are available to teachers. How to identify the most effective teaching strategy is a constant subject of discussion among teachers. Students' active participation in the learning process is considered fundamental. According to the result of a 1982 survey, many general-school teachers think that problem solving is the most effective strategy (34 percent placed this method first). Other strategies such as the explanatory method (26.8 percent) and interaction (18.2 percent) are considered less effective.

7. Examinations

There are two decisive transition points in the Hungarian system of public education. After completing general school, nearly all students go on to further education without taking any examinations. However, the type of school they may choose is determined by their past achievements expressed in marks. This transition point is strongly criticized because it imposes choice at a rather young age (13–14). It appears that, in many cases, the parents make the choice.

In all secondary schools, fourth-grade students (i.e. 17–18-year-old) can choose whether or not to take a final examination, the so-called maturity examination. Most students are examined by a school board presided over by a high-ranking educational official from outside the school. Students at trade schools also take a final examination in order to get a certificate.

Students who want to continue learning in tertiary education have to pass an entrance examination set by

a university board. The admission exam consists of an oral part and a written part. The result of this examination, plus the level of achievement in previous grades together give the total score. The minimum requirement is determined by criteria fixed by the universities and colleges themselves.

The current system of examination and selection is being constantly improved. A new approach to organizing entrance to tertiary institutions was introduced in 1982.

8. Educational Research

For a long time educational research has been influenced by theoretical reasoning and a marked historical approach. Empirical research emerged only in the 1960s. The impetus came from urgent social needs and from experience in other social fields such as sociology and psychology.

Generally speaking, the current task of educational research is preparation for decisions on school policy. Educational institutes and departments at colleges and universities are responsible for research activities. Most institutions finance their activities from their own budgets. Research topics connected with the long-term reform of the structure and the teaching content of the system of public education are organized and financed by agencies such as the Ministry of Culture and the Hungarian Academy of Sciences (MTA).

The most important fields of current educational research are the following:

- (a) Research on the content of teaching. Special committees of the Hungarian Academy of Sciences earlier worked out proposals regarding the future content of schooling. On the basis of these investigations researchers have now to conceive and evolve a new integrated system of school subjects. Working out the proper balance between general and vocational education at secondary level is another task belonging to this field of research.
- (b) Research on the teaching-learning process. This is a complex field of investigation aimed at improving the effectiveness of education. The theoretical and practical aspects of curriculum development and evaluation, as well as national and international surveys, such as the International Association for the Evaluation of Educational Achievement (IEA) projects belong to this sector of research.
- (c) Research on school life and school activities. The aim of this research topic is to develop the inner structure of the school in such a way that ever-growing social demands may be met by the school (e.g., to handle the relationship between working life and learning).

Other research topics deal with teacher training, educational planning, the improvement of administration.

and the development of new educational media. Needless to say, this list is far from complete.

9. Major Problems

The modernization of schooling and the school system is regarded as a permanent task. First of all, curriculum content and teaching methods should be improved in order to increase effectiveness. It is expected that research on curriculum content will lead to a new pattern of integrated school subjects. Structural changes are also imminent. The current partition of general and vocational education is expected to be abolished and a really comprehensive type of secondary education will be established. To reshape tertiary education is the next important task.

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Iceland

H. Lárusson

Iceland is an island in the North Atlantic south of the Arctic Circle. It covers 103,000 square kilometres (39,768 square miles), and 78,000 square kilometres (30,116 square miles) of its surface lie over 200 metres above sea level.

Originally, Iceland was almost entirely settled from Norway, with the first settler arriving in AD 874. Iceland was for a long time under the Danish Crown and gained final independence in 1944 after a long struggle. Settlement is entirely along the coastline and in valleys stretching into the interior. The capital, Reykjavík, is in the southwest corner of the country, and about one-half of the country's population live there or in the immediate surrounding area.

Table 1
Increase in population and urban-rural distribution 1901-80

Years	Population (thousands)	Urban (in towns of more than 300 inhabitants) (%)	Rural (%)
1901	78.5	26.9	73.1
1920	94.7	45.7	54.3
1940	121.5	66.7	33.3
1960	175.7	82.3	17.7
1970	204.6	85.9	14.1
1975	219.0	87.5	12.5
1980	229.2	88.6	11.4

The population grew slowly and in 1801 the number of inhabitants is known to have been 47,200. Table 1 presents the population growth during the twentieth century as well as its urban-rural distribution. A considerable shift in population from rural areas to towns occurred during the first half of the century. Since then, however, this development has decreased and in the mid-1980s there are signs of a reverse movement.

Immigration from other nations or races is and has been negligible, and Icelandic is the only language of the country. Consequently, there are neither language nor race difficulties.

The shift in population distribution from rural to urban areas was caused by changes in the traditional industries of the country as well as the increased part played by technology in agriculture and fishing. At the same time, other industries have been on the increase, especially in the 1970s. As a result of these changes and the improvement in the standard of living, there has been a considerable increase in general services and commerce.

Table 2 presents the occupational distribution in Iceland in 1979. The main changes in occupational distribution during the years 1963-79 were the reduction in the number of those employed in agriculture and fishing and the increase in the number of those employed in banking and insurance as well as in public service.

Since 1944, all governments have been coalition governments and there has been no marked difference

Table 2
Occupational distribution of working force 1979

Major occupations	%
Agriculture	6.9
Fishing	5.2
Fishing industry	9.0
Manufacturing industry	17.9
Power stations, water systems	0.9
Construction	10.2
Commerce	13.7
Communications	7.5
Banking, insurance, etc.	5.4
Public service	23.3

in government policy as far as education is concerned. With the construction of schools and the provision of the necessary facilities, educational opportunity has been successfully provided for everyone. There has also been an endeavour to counter the migration from rural to urban areas by providing educational facilities as widely as possible. Measures have been taken to make it possible for everyone to receive postcompulsory school education irrespective of economic status by providing those in need with favourable loans or grants.

In all schools, teachers' salaries are paid by the state and almost all schools are run either by the state alone or by the state and respective municipality together. Compulsory school pupils receive teaching materials free of charge, whereas those in other schools carry this expenditure themselves.

1. Aims of the Educational System

In Icelandic educational law, the fundamental rule is that everyone should have an equal right to education and that in educational work complete equality should be observed between men and women among both teachers and pupils. By law, pupils must be given equal opportunities for education irrespective of their location.

Paragraph 2 of Law No. 63/1974 on compulsory schooling reads as follows:

The aim of the first-level school [i.e. 7-15 years of age] is, in cooperation with the home, to prepare the pupils for life and work in a continuously developing democratic society. The organization of the school as well as its work shall, therefore, be guided by tolerance, Christian values, and democratic cooperation. The school shall foster broad outlooks and develop the pupils' understanding of the human condition and environment, Icelandic society, history, and characteristics, and their sense of duty to society as individuals.

The first-level school shall endeavour to organize its work so as best to harmonize with the nature and needs of the pupils and develop their general abilities conducive to the maturity, health, and education of each one of them.

The first-level school shall give the pupils the opportunity to gain knowledge and develop skills, and train them in such

methods of work as will lead them to make a constant effort to improve their education and reach further maturity. The school shall, therefore, lay the foundation to independent thinking and foster the spirit of cooperation.

Secondary schools in Iceland have various functions and a special law is in effect for each kind of school. The aims of these schools are chiefly to provide appropriate vocational training or further education while at the same time fostering the pupil's general mental and physical capacities as an individual and as a member of a democratic society.

The function of university education is to prepare the students for specialized work in society and scientific and research work.

2. Structure and Size of the Educational System

The first real educational law was passed in 1907, when compulsory education was laid down for the age group 10-14. Later, in 1946, a new educational law was passed according to which school was made compulsory for all 7- to 14-year-olds. In the first half of the twentieth century, children generally learnt at least reading, writing, and arithmetic at home. This made up for the limited schooling. The educational law of 1946, which was an important step to improving education in Iceland, was revised and a new law was passed in 1974. This law enacted nine years of compulsory schooling for 7- to 15-year-olds, but the provision of the extra year has not yet come into effect.

Municipalities may establish a preschool stage in the compulsory schools for 6-year-olds or 5- and 6-year-olds provided that the Ministry of Education approves the programme, locality, and equipment.

At present, around 95 percent of each year group of 6- to 14-year-olds attend preschool and compulsory school. The remaining 5 percent are multihandicapped pupils boarding in special institutions. A proportion of the 5-year-old age group attends school. The size of each year group is around 4,500.

At the secondary level, there are varied educational opportunities, which are divided into two main types; university-preparatory education in grammar schools and occupational training in vocational schools. Since the mid-1970s several comprehensive secondary schools have been established. In these schools, the two main lines mentioned above are being combined.

Table 3 shows the proportion of students of each sex attending school at the ages of 15, 16, and 19. The 15-year-olds have completed their compulsory education and are in their final year of elementary education, which is required for secondary-school education. The 16-year-olds are for the most part in their first year of secondary school, but at this level the age variation is considerable and hence it is impossible to state in which year of study a student at a given age is. However, on average, a 19-year-old student will be in the fourth and final year of secondary school.

Table 3
Proportion of 15-, 16-, and 19-year-olds in school by sex, 1966-80

Year	15-year-olds		16-year-olds		19-year-olds	
	Males	Females	Males	Females	Males	Females
1966	75.1	81.3	61.8	68.8	42.0	16.6
1968	80.5	84.7	67.6	72.4	27.3	21.2
1970	86.5	88.9	76.7	79.5	31.0	22.2
1972	85.6	89.9	74.4	79.7	30.9	25.8
1974	86.7	90.5	72.1	78.8	29.7	25.6
1976	89.1	91.5	72.3	80.1	35.8	32.3
1978	90.4	94.2	63.6	69.4	44.4	36.4
1980	92.0	95.1	60.9	69.4	50.1	43.1

As indicated in Table 3, a considerable number of pupils leave school after the comprehensive primary level. Some of these pupils return to school later, however. One reason for a higher number of females than males attending school in the 15- and 16-year age groups is that it is easier for males to enter employment as the demand for labour is rather high in the country.

Table 3 indicates that the school attendance of 16-year-olds dropped suddenly in 1978. The explanation is that until 1978 pupils could complete their compulsory comprehensive and lower-secondary-school education in 10 years instead of 9 and just about one-half of the pupils in each age group chose this alternative. After 1978, only those 16-year-old students receiving secondary education are included in the statistics.

Figure 1 presents the development in the number of students enrolled at university level from 1945 to 1980. In 1972, the education of comprehensive primary and lower-secondary-school teachers, that is, the teachers of preschool, compulsory school, and the noncompulsory 15-year age group, was upgraded from the secondary-school level to university level, which partly explains the increase in the number of undergraduates after 1970.

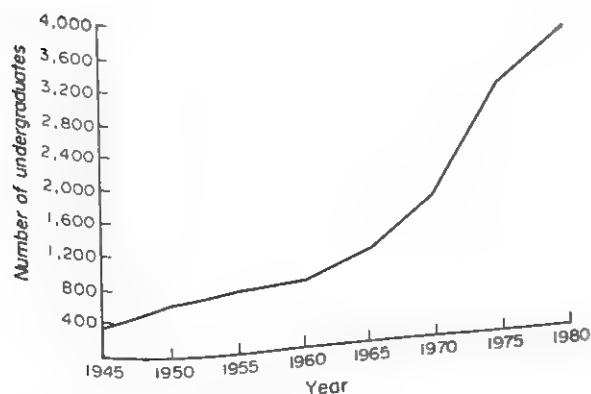


Figure 1.
Increase in university enrolment 1945-80

Table 4 presents the proportion of each year group from 14 to 26 attending educational institutions during the years 1976-77 and 1980-81. The table includes the two final years of the first-school level and the second and third levels, but students abroad and those receiving vocational training in apprenticeship schemes are excluded.

Many municipalities run adult educational courses offering various choices, especially in language, arts, and handicrafts. Those taking such courses do so mainly to increase their skill in a subject and do not aim at any major final examination. The adult education courses are partly supported by the state, partly by the municipalities, and also by student fees.

Table 4
Percentage of age groups in full-time education 1976-77 and 1980-81

Age	1976-77	1980-81
14	95.2	96.0
15	90.3	93.5
16	76.1	64.4
17	46.6	54.2
18	40.2	44.5
19	35.0	39.5
20	27.8	32.2
21	24.2	27.0
22	20.0	23.3
23	16.8	19.0
24	13.4	13.6
25	9.0	10.0
26	6.4	8.7

Some secondary schools provide adults with afternoon or evening classes with the same curriculum as the regular day students. School hours are, however, considerably fewer than in the regular courses. The costs of these courses are equally divided between state, municipality, and student.

A correspondence school is also run in the country by a few associations. This school receives some state support as well as fees from students. There are also private schools for adults, especially language schools, where the pupils carry all the costs.

Quite frequently, public institutions and private firms organize courses for their staff as do various associations for their members. The aim of these courses is to improve the professional skills of the participants or to provide general courses in special fields.

Participation in adult education has been very considerable and there is obviously a great need for this service. However, no comprehensive legislation for adult education exists.

3. Administration

The Ministry of Education supervises and controls education in Iceland. A few special schools, however, come

under other ministries; for example, agricultural schools come under the Ministry of Agriculture.

At the first-school level, the country is divided into eight educational districts. In each district, there is an educational council elected by the local association of municipalities and an educational supervisor appointed by the Ministry of Education. These supervise and control education at the first-school level in their respective districts.

Each educational district consists of school areas with school boards elected by the respective municipality. The school board supervises and controls first-level schools in its area and is responsible to the educational councils and supervisors.

Secondary schools come directly under the Ministry of Education. The Industrial Training Board appointed by the Ministry of Education partly supervises and controls the affairs of industrial schools. The training board also includes representatives of industrial societies and employers.

Universities are directly supervised and controlled by the Ministry of Education. Their internal affairs are governed by university councils.

4. Finance

The first-level schools are run jointly by the state and the municipalities. All teachers and headteachers receive their salaries from the state. The state also pays part of the salaries of other staff. The municipalities pay the rest of such salaries, and the maintenance costs of school buildings. For second-level schools, the state pays all the salaries of teachers and headteachers and either all or, in jointly operated schools, part of the other costs. The third level is financed entirely by the state.

Full information about municipalities' costs is not available. In 1979, 70 percent of the operational costs of first-level schools were paid by the state and 30 percent by the municipalities.

In 1980, 12.74 percent of the state budget went to education. This represented 3.37 percent of the gross national product. The 12.74 percent of the state budget was split as follows: 6.18 percent to first-level schools, including preschool; 2.84 percent to secondary schools; and 1.33 percent to the university, 1.54 in loans and grants, and 0.85 to other schools. The proportion of the state budget devoted to education varied by only 1 percent from 1946 to 1980.

5. Personnel

Teachers at the first-school level receive their education at the Educational College of Iceland. This takes three years and one-third of the course is spent studying education and methodology, one-third is spent on general academic subjects taught at the first-school level, and one-third is for specialization in two elective subjects or a special field.

Teachers of academic subjects at the secondary-school level receive their education at the University of Iceland or universities abroad. This normally takes four years. Educational theory and methodology occupies one year, specialization in a main subject takes two years, and one year is spent on the study of a second subject. Practice teaching is also part of the training of both groups of teachers.

Teachers in special subjects at vocational and specialized schools at the secondary-school level receive their education in one of many different fields. They must, however, all have completed the required one-year study in education and methodology. For example, to be appointed a teacher in a vocational subject at a vocational school, the applicant must have passed an examination in technology or have completed some equivalent study or hold a qualified artisan's certificate in the subject. In addition, applicants must have worked as a technician or artisan for two years in their special field.

Headteachers are required to be qualified teachers for the respective school level and must also have at least two years' teaching experience. Educational supervisors are selected from the ranks of qualified teachers. At the time of appointment, special attention is paid to their knowledge of methodology, administrative experience, and familiarity with school affairs.

About 17 percent of teachers at the first-school level are unqualified as defined by law. One reason is that a considerable number of those who complete their teacher training enter different occupations, causing a shortage of trained teachers. At the secondary level, there is some shortage of qualified teachers. This varies, however, with the subject.

Special courses in education and methodology have been organized for those teachers who are not fully qualified. Annual inservice courses are held for first-level teachers, with about 25 percent participation. Similar, but fewer, courses are held for secondary-school teachers.

6. Curriculum Development and Teaching Methodology

Until the mid-1960s, development in educational affairs was rather slow, and it was therefore urgent to start the reorganization of various features of educational work. In 1966, a special department was established at the Ministry of Education to undertake educational research and development work. The main stress was on the revision of teaching materials and teaching methods at the first-school level.

Teaching materials and curricula have been produced by groups of experienced teachers led by supervisors of respective subjects. The supervisors, who are in the service of the Ministry of Education, also assist and direct teachers in educational innovations and provide information concerning teaching materials and methods.

In this way, teaching materials have been produced for most subjects in first-level schools, and these have been published and distributed to schools by the National Centre for Educational Materials which, by law, must provide pupils at first-level schools with the required teaching materials. Curricula are published by the Ministry of Education.

As all these activities are organized by the ministry and the centre, all first-level schools follow the same curriculum and in the main use the same instructional materials. The curriculum is, however, meant only to be a guide, and individual schools enjoy considerable freedom in their work. The introduction of new teaching materials has been mainly in the hands of the supervisors.

At the end of the 1970s and beginning of the 1980s, there was a great effort to increase flexibility in school work in order to meet the needs and interests of everyone. A common view is that in order to achieve this it will be necessary to change teacher training. More variety in teaching materials will be needed, and a change in the organization of schools. This, in turn, will require a higher appropriation of funds for educational affairs.

At the secondary-school level, development has been much slower. Many teaching materials for this level come from abroad, produced either in English or in one of the Scandinavian languages. There are few teaching materials in Icelandic. The market is small with few pupils in each line of study and the publication of course books is unprofitable. An effort is being made to provide the first two years of secondary school with course books in Icelandic.

In the lower ranges of the school, emphasis is placed on the independent work of the pupils, group work, and team work. The teacher has the function of guiding and aiding the pupils. In the upper ranges of the secondary level, however, instruction is in the form of lectures and catechizing. Some change is, however, taking place with more emphasis put on the independent work of the students.

7. Examinations, Promotion, and Certification

Evaluation at the first-school level is the responsibility of the school and the educational authorities. At the end of the school year or course, the pupils receive grades based on their achievement of the aims of the study. There is also a written statement as to progress, diligence, and other aspects of learning emphasized by the school.

As a rule, pupils are supposed to move up one class a year. Exceptions to this are determined by the school governing body and the pupils' parents or guardians. By the end of the first-level school, the pupils have taken a common examination in Icelandic, Mathematics, Danish, and English. Upon completion of the first-school level, pupils receive a certificate stating this fact. They also receive a certificate with a written evaluation

by the school of the pupil's achievement and with the pupil's result in the examination.

To be admitted to a secondary school, pupils must have achieved minimum marks in each subject in the final examination of the first-level school. Those pupils who have not attained these minimum requirements may take a special course offered in some secondary schools to improve on their previous marks. In order to be promoted from one class to another in secondary school, pupils must obtain a certain average mark in all their subjects of study. In schools using the subject-unit system, a minimum level in individual subjects is required.

To be admitted to the university, pupils must have a leaving certificate from one of certain schools in the secondary-school group, that is, "grammar schools" (*menntaskólar*) or multilinear schools, or some equivalent proof of efficiency.

8. Educational Research

The main institutions engaged in research in the field of education are: the University of Iceland, the Educational College of Iceland, and the Department of Educational Research and Development of the Ministry of Education.

Appointed teachers at the University of Iceland and the Educational College of Iceland are required to undertake research as part of their duties. No general plan for research work exists and each teacher-researcher is largely responsible for the sort of research work undertaken. Most research work undertaken by the educational department of the ministry has been in developing teaching materials and methodology for the first level of education.

9. Major Problems

During the 1970s, the main emphasis was on compulsory schooling—both its development and its organization. However, in spite of this work, there is still much left to be done; improved facilities and better educated personnel have to be provided particularly in the rural areas.

There is no curriculum for preschool education and the teaching materials at this level are limited. These two factors have led to many problems for schools and it is imperative that proper guidelines and the requisite materials be provided for their work.

The training of teachers, particularly at the secondary level, has to be improved.

In deciding on educational programmes, the real needs of the schools must be taken into account as must their position and role both in local societies and in Icelandic society as a whole.

In secondary schools, a new law revising the whole educational programme is being planned. This is probably the most important and comprehensive task that has to be carried out in the next two decades.

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India

A. Bordia

With a tradition of learning and education as old as the history of civilization, India presents a picture of amazing scientific and technological progress side by side with massive illiteracy and a weak educational system. In terms of numbers of institutions, students, and teachers, as well as in the variety of educational activity, the Indian educational system is one of the largest in the world. However, in spite of many efforts made, the system of education remains divorced from the overall objectives of the country's development.

With an area of 3,287,782 square kilometres (1,269,413 square miles), India is the seventh largest country in the world. In the 1981 census its population was given as 680 million, second only in size to China (which was estimated in 1986 at over 750 million). Approximately 57 percent of the population are under 24 years of age and about 77 percent live in the rural areas. The main religious groups are Hindus (83%) and Moslems (11%), with Christians, Sikhs, and Jains forming small minorities. A large number of languages and dialects are spoken in India, most of which have their own scripts and a rich literature.

India's economy is essentially agricultural. Agriculture and allied activities (such as animal husbandry and fishing) account for 33 percent of the country's national income, and performance in this area has a direct impact on performance in the manufacturing sector, which accounts for a little less than a quarter of the national income. There is one worker to every two nonworkers. The nonworkers are mainly housewives, the aged, students, and the unemployed. The agricultural sector absorbs nearly 69 percent of the country's workforce, of which more than one-third are agricultural labourers, who are generally illiterate and dependent on seasonal work.

India has a planned economy, the guiding consideration of which is growth with social justice. Between 1951 and 1986, the country had six five-year plans, with ad hoc annual plans in the other years. Planning in India encompasses the public as well as the private sectors, including the social services, of which health and education are a part. During the 36 years of planned development, the national income has increased, in real terms, at a rate of 3.7 percent per annum; agricultural production has grown by 2.8 percent per annum over the period, industrial production by nearly 5.7 percent per annum and installed generating capacity from 2,300 MW to 51,800 MW.

In spite of these impressive gains, with per capita income at US\$200 in 1985-86, India is one of the poorest countries in the world with wide disparities of income. It has been estimated that more than one-third of the population live below the poverty line, that is, with a nutritional intake below the minimum requirement.

Geographical, demographic, and socioeconomic factors have a direct bearing on India's educational system. Such a large country, with such wide geographical and linguistic disparities, can hardly have a centralized educational system. Rapid population growth requires a continuous expansion of educational facilities just to maintain existing levels. A corollary of the unequal socioeconomic situation is that a disproportionate importance is attached to technical and higher education, with comparative neglect of mass education programmes, particularly in elementary education and adult literacy.

India was a part of the British Empire for about one hundred and fifty years, until gaining independence in 1947. The British systematically destroyed the indigenous system of education and introduced the teaching of

European learning through the medium of English. The British-Indian system educated a select few, leaving a wide chasm between the educated and the unlettered. At the time of independence, 14 percent of the population was literate and only one child out of three had been enrolled in a primary school.

During the British *raj*, too, a number of educational pioneers, who were also leaders in the struggle for freedom—for example, Sri Aurobindo, Rabindranath Tagore, and Mahatma Gandhi—explored ways of reviving the spirit of Indian culture and of building an educational system suited to Indian conditions.

During the first few years after independence, there was serious debate between those attempting to retain the British-Indian educational system and those advocating an alternative model, particularly the one designed by Mahatma Gandhi.

1. Goals of the Educational System

The Indian Constitution, promulgated in early 1950, sets out the framework for a federal political system and lists the sectors for which the central and state governments are respectively or concurrently responsible. Education was in the State List, and although by an amendment (1976) it has been placed in the Concurrent List, the responsibility for education rests essentially with the states. The central government's responsibility is mainly for the maintenance and coordination of standards of higher and technical education. The Constitution directs the state to provide free and compulsory education for all children up to 14 years of age. It also provides for equal educational opportunity for all and special protection of religious and linguistic minorities.

Soon after independence, priority was given to the introduction of "basic education" (*nai taleem*, in the words of Mahatma Gandhi), the objective of which is to develop the total personality of the child by providing instruction related to manual and productive work. While Gandhian basic education provided guidelines for the planning of primary education, the search for a suitable system of secondary and higher education led the government of India to appoint two commissions in 1948 and 1952 respectively. Although some reforms were introduced as a result of the recommendations made by these commissions, a nationally accepted structure of education (of 10 + 2 + 3 years) had to await the conclusions of the Education Commission (1964-66).

On the basis of the recommendations of the Education Commission, the central government, after consultations with state governments and with the approval of parliament, announced the national policy on education in 1968. The education policy called for "a transformation of the system of education to relate it more closely to the life of the people; a continuous effort to expand educational opportunity; a sustained and

intensive effort to raise the quality of education at all stages; an emphasis on the development of science and technology; and the cultivation of moral and social values".

Early in 1985 the central government reviewed the educational situation and decided to bring about a new education policy, with a view to ensuring that the directives contained in the Constitution regarding free and compulsory primary education are complied with and the educational system becomes attuned to the emerging social, cultural, economic, and technological situation.

The New Education Policy and a Programme of Action for its implementation were prepared in consultation with the state governments and were adopted by the federal parliament in 1986. The New Education Policy envisages a national system of education which would take determined steps for the universalization of primary education and the spread of adult literacy, thereby becoming an instrument for reduction of disparities. It will be based on a national curricular framework which contains a common core along with other region-specific components that are flexible. The common core will cut across subject areas and will be designed to promote values such as India's common cultural heritage, egalitarianism, democracy and secularism, equality of the sexes, protection of the environment, removal of social barriers, observance of the small family norm, and the encouragement of a scientific outlook.

The 1986 policy lays stress on the widening of opportunities for the masses but calls for consolidation of the existing system of higher and technical education. It also emphasizes the need for a much higher investment in education, and calls for the level of funding to be raised to 6 percent of the national income by 1990, and even higher thereafter.

Pace setting schools, intended to provide quality education for children with special talent or aptitude irrespective of their capability to pay, will be established in various parts of the country. These schools, to be called Navodaya Vidyalayas, will seek to promote excellence along with equity and social justice by enrolling children largely from the rural areas and the backward sections of society.

Apart from the special efforts made in the context of the two education policies (1968 and 1986), each five-year plan reviews the education effort and realigns it to immediate objectives. The seventh five-year plan (1985-90) states that the major strategies for achieving the goals of educational development would include, among others, effective decentralized planning and organizational reforms, promotion of nonformal and open learning systems, forging of beneficial linkages with industry and development agencies, and mobilization of community resources and societal involvement. Primary education and adult literacy have been included in the minimum-needs programmes, to which the plan gives a high priority.

2. General Structure and Size of the Education System

2.1 Formal Education

Figure 1 presents the structure of formal education which extends to the whole country. Within this common structure, however, there are wide disparities in facilities and standards. At one extreme are the "public schools", so called after their British models, and at the other extreme are the ill-equipped, insufficiently staffed, and poorly supervised government rural or municipal schools. In between these extremes are a variety of private schools, the well-funded "central schools", meant mainly for the children of central government employees, and basic and postbasic schools run by people inspired by Gandhi's ideas on education.

Primary schools are, by and large, coeducational. Attendance is compulsory. School sessions commence at the end of the summer and there are autumn and summer vacations. Generally speaking, the number of working days is 200 in an academic year.

General higher education is provided in universities and colleges. Most universities are teaching as well as affiliating institutions. All central universities and a few others are primarily residential and/or teaching universities. Most enrolment in higher education is in colleges. Technical and professional courses range from three to five years for a first-degree course to two to three years for a postdegree course. Admission requirements in general education courses are not very demanding, but admission to engineering and medical courses is very competitive. Universities also provide facilities for research and many of them, particularly the agricultural universities, have developed extension programmes. The number of institutions at each level of education is given in Table 1 for the years 1950-51 to 1984-85.

Little importance has so far been attached to pre-primary education. Highest priority is given to the universalization of primary education. According to Department of Education (Ministry of Human Resource Development), enrolment in the 6-11 age group is 94 percent, of which 59 percent are boys and 41 percent are girls (see Fig. 2). The enrolment of males

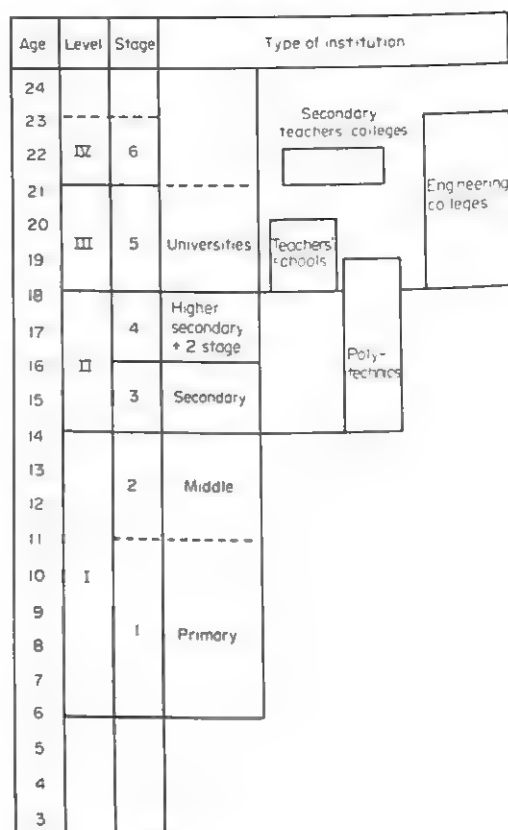


Figure 1
Structure of the educational system

and females from 1950-51 to 1984-85 is shown in Table 2.

The position regarding enrolment varies from state to state. There are some educationally advanced states where the gross enrolment ratio at the primary stage for boys as well as girls is well above the national average, while others lag far behind. Incentives such as attendance rewards, midday meals, free uniforms, and free textbooks are given to children to remain in school. Even so, the dropout rate at the primary stage has remained above 60 percent since 1950-51. Enrolment is particularly low and the dropout rate high among girls

Table 1
Numbers of educational institutions from 1950-51 to 1984-85

	1950-51	1960-61	1970-71	1980-81	1984-85
Universities	27	45	100	131	150
Colleges of general education	498	1,059	2,598	7,264	8,065
Institutions of technical and professional education	155	316	2,398	2,553	3,205
Secondary schools	7,288	17,257	36,738	47,755	58,834
Middle schools	13,596	49,663	90,621	116,447	129,879
Primary schools	209,671	330,399	408,378	485,538	519,701

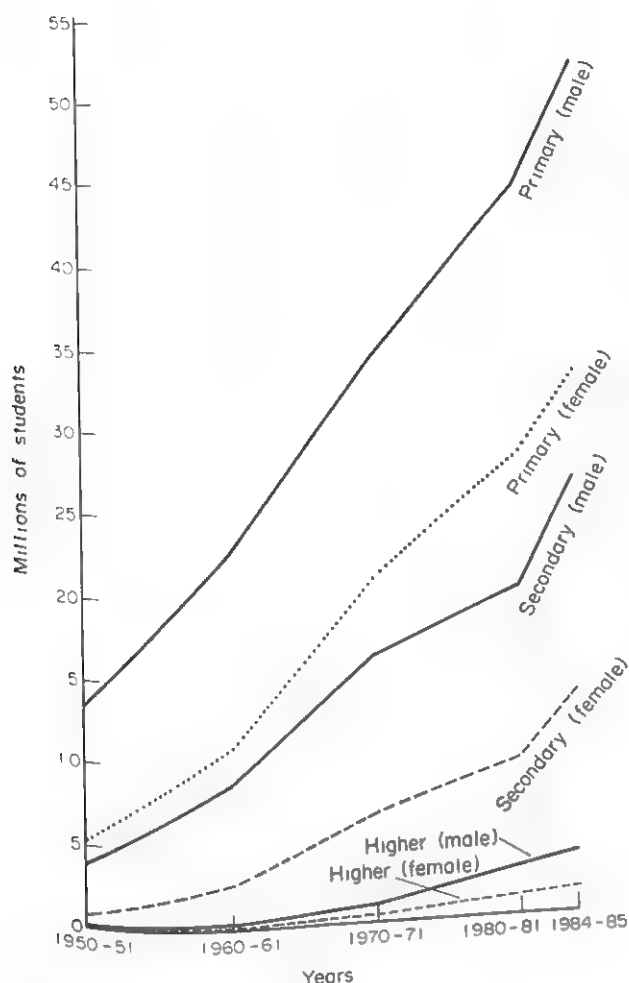


Figure 2
School enrolment from 1950-51 to 1984-85

and those social groups that have traditionally been backward.

Public demand and political support have led to the uncontrolled expansion of secondary and higher education. Programmes to vocationalize secondary education have met with little success. Although some restrictions were placed on the expansion of higher education in the 1970s, the central and state governments find themselves helpless in the face of demands

for more institutions and fewer restrictions on admission. The consequence is unmanageably large higher education institutions, lack of motivation among teachers and students, widespread student unrest, and large-scale unemployment among the educated.

2.2 Nonformal Education

A determined thrust was given to part-time and non-formal education programmes in the sixth five-year plan. The 1986 Policy envisages that a large and systematic programme of nonformal education will be launched for those children who are not in a position to take advantage of the formal system of schooling. The nonformal education channel is being developed as a system complementary to the formal one. The programme envisages flexibility in regard to course content, duration, place and hours of learning, and decentralization in management. It is envisaged that the actual running of the programme will be done with the help of voluntary agencies and local government institutions with state government also running nonformal education centres where necessary. Essential features of the curricula and teaching/learning materials proposed to be used by children will be their relevance to work, life and environment of the learners. In the new policy it is emphasized that the level of and opportunities for learning in the nonformal stream should be comparable with the corresponding stage in the formal system. The programme has acquired momentum and by the end of 1985-86, nearly four million children had been reached through 150,000 centres.

In the early 1960s, universities established correspondence courses and departments of adult and continuing education. In 1982-83, 24 universities were organizing correspondence courses with an enrolment of about 164,000. A start has also been made with correspondence courses at the secondary level. Radio and television are, generally speaking, not used to supplement correspondence instruction, but of late the use of videotapes has been increasing rapidly.

Indira Gandhi National Open University was established in Delhi in 1985. It lays stress on continuing and vocational education with a view to improving knowledge and skills and promoting educational opportunities for the community in general and the disadvantaged groups in particular. Some states such as Andhra Pradesh have established their own open universities. It is

Table 2
Enrolment (male and female) at different stages 1950-51 to 1984-85 (in thousands)

Level/stages	1950-51		1960-61		1970-71		1980-81		1984-85	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Preprimary	15	13	97	82	190	168	501	417	575	459
Primary (classes 1-5)	13,406	5,271	22,687	10,944	34,573	20,595	44,576	28,112	50,739	33,193
Secondary (classes 6 and above)	3,838	723	8,696	2,704	16,262	6,531	19,928	9,410	26,558	13,414
Higher	90	14	277	73	1,016	392	2,943	1,049	3,685	1,493

envisaged that the state-level open universities would tie up with the national universities for the purposes of material production and dissemination.

A wide variety of adult education programmes have been organized since independence. All the earlier programmes merged in the National Adult Education Programme (NAEP), which was launched in 1978. The National Adult Education Programme aims at involving all agencies (government, voluntary organizations, educational institutions, etc.) in programmes ranging from plain functional literacy to consciousness raising for education of illiterate persons in the 15–35 age group. Administratively, the programme works at state and district levels. Each state also has a state resources centre for the production of instructional materials, training, and evaluation. At its peak in 1979–80, there were approximately 100,000 adult education centres under the programme. The seventh five-year plan (1985–90) continues the programme, and has set the target at reaching forty million illiterates in the age group 15–35 years.

In 1987 the central government launched the Mission for the Eradication of Illiteracy in 15–35 age group. The mission's approach envisages harnessing the advances in science and technology, and in pedagogy for improved literacy learning. The existing programmes under which projects of this kind are in operation in well-defined areas are to be provided with more adequate financial and technopedagogical inputs. A mass programme for functional literacy is to be initiated with the help of universities and colleges, and special demonstration programmes will operate in about 10 percent of the districts of the country. An efficient management system, along with necessary management for monitoring are also to be established.

3. Administrative and Supervisory Structure

Educational planning is organized at both central and state levels on the lines indicated by the central planning commission. Although the administration of agricultural and medical education is the concern of the Ministries of Agriculture and Health, the principal responsibility for educational development in central government rests with the Ministry of Human Resource Development, set up in 1986. This Ministry comprises the Departments of Education, Culture, Arts, Youth Affairs and Sports, and Women and Child Development. The Department of Education is responsible for educational planning and policy, for coordination and maintenance of standards in higher and technical education, for promotion of research and training relating to school education, adult education, and the promotion of languages.

The central government set up the University Grants Commission (UGC) in 1956 to take charge of responsibility for higher education. The University Grants Commission is, like its British counterpart, a statutory, autonomous body and has an annual budget of approxi-

mately Rs.2,350 million. Although its principal function is to coordinate the development of higher education and to ensure maintenance of standards, over the years it has become the central government's arm for assessing the financial needs of universities and colleges and for disbursing funds to them.

The National Council of Educational Research and Training (NCERT), with an annual budget of approximately Rs.140 million, has acquired an international reputation for its contribution to improving the quality of elementary and secondary education. Its main contribution has been in the spheres of curriculum construction, production of textbooks, and examination reform. In cooperation with NCERT, the central government is also supporting programmes to provide educational technology, ranging from satellite instruction to the supply of apparatus for science experiments in rural primary schools. Another important organization created by the central government is the National Institute of Educational Planning and Administration (NIEPA), which undertakes diverse programmes of research extension, training and consultancy. It plays an important role in educational reform and much of the work connected with the implementation of the New Education Policy (NEP) is being done with support from this faculty.

In each state, there is a secretariat for education and separate directorates for higher education, school education, technical education, and adult education. The state-level administration lays down policy and regulates the educational system.

All states, with the exception of the very small ones, also oversee district administration. At the head of the district education administration is a district education officer with several deputies and subdeputies who together inspect and supervise the schools. One of the highlights of the NEP 1986 is that it emphasizes the need for a decentralized microlevel planning and management of education, particularly at school level and in the rural areas. For this purpose the infrastructural and the institutional support is being strengthened at the district level. It is proposed that in each district (there are more than 435) separate institutes for district education and training (DIET) will be set up. Village education committees are also going to be set up so that the community can play its vital role in educational development. The heads of schools set school timetables, attend to discipline among pupils, and supervise the work of teachers.

4. Finance

Education is financed by the central government, state governments, local authorities, and a variety of private sources. The education budgets of the central government as well as the state governments are divided into two categories: developmental expenditure and maintenance. Over the years, there has been a remarkable increase in expenditure on education, both as a per-

Table 3

Per student costs and percentages of education expenditure allocated to different levels in general education

	Cost per student (rupees) 1983-84	% of education expenditure allocated 1983-84 ^a
Primary	231.1	48.1
Secondary	1,309.4	33.0
Higher	6,584.1	12.5

a The total percentage of expenditure comes to 93.6 percent. The balance is on administration and supervision, preprimary education, and adult education

centage of gross national product (GNP) (3.8 percent in 1983) and as a percentage of government expenditure (13.6 percent in 1983-84). There is a wide difference in per student expenditure at different stages (see Table 3).

Although the proportion of government expenditure on education has been increasing steadily, the share of private sources continues to be substantial. Private sources include individual and family charities, student fees, and community contributions in the form of buildings and equipment. Fees are very low in schools run by government and by local authorities and in institutions of higher, professional, and technical education. Figure 3 presents the proportions of public and private financing of education between 1950 and 1980.

A comprehensive programme of scholarships exists to aid equalization of educational opportunity and to provide facilities for higher and specialized education and training. In 1985-86, under the National Merit Scholarships Programme, 27,000 scholarships were given for undertaking studies beyond the matriculation stage and 33,000 to talented children belonging to rural areas for education up to the higher secondary stage. In addition, a large number of scholarships are awarded for research and for further studies overseas in science and technology. India also offers scholarships to students from the developing countries to pursue studies in Indian universities.

5. Supply of Personnel

Under the guidance and support of the central Department of Education, the salary scales of teachers at universities and colleges have been substantially

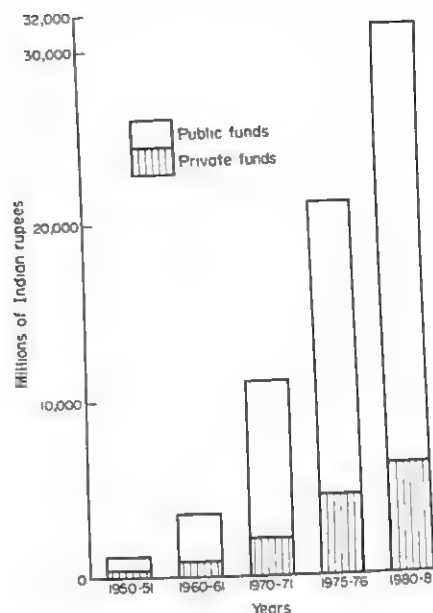


Figure 3
Total expenditure on education from public and private funds

improved. The gap between the pay of teachers at different levels continues but, as a result of increases in the salary scales of school teachers, the gap has become less glaring.

Practically all teacher appointments are made from among trained personnel. The requirement for admission to primary teachers' colleges is completion of higher-secondary education and for secondary teachers' colleges it is a university degree. On the recommendation of the National Council of Teacher Education (NCTE), most states have introduced a two-year certificate course for primary-school teachers. The Bachelor of Education degree course continues to be of one year's duration. There are summer schools for secondary and college teachers but little else by way of inservice training. Under its faculty-improvement programme, the University Grants Commission provides financial support for teachers wishing to pursue research. There are four excellent training institutions for teachers in polytechnics. Table 4 presents the number of teachers in schools in 1947 and 1984-85.

Table 4
Numbers of teachers in schools for 1947 and 1984-85

	1947		1984-85	
	Thousands of teachers	Percentage of trained teachers	Thousands of teachers	Percentage of trained teachers
Primary schools	344	67.1	1,458	88.7
Middle schools	50	58.3	905	90.6
High/higher schools	93	54.9	1,075	91.4

The National Council for Educational Research and Training, in coordination with NCTE and the State Councils of Educational Research and Training, has endeavoured to upgrade the quality of teacher education. It supported the Intensive Teacher Education Development Programme in several states and has assisted state authorities in improving teacher-training curricula. Practically all primary teacher-training colleges have received financial support from central government for the improvement of their facilities. As a part of implementation of the NEP, the proposed District Institutes of Education and training will provide facilities for preservice as well as in-service teacher education and will serve as the resource centre for teachers and educational administrators.

6. Curriculum Development and Teaching Methodology

Curricula at the higher education level are the responsibility of the universities, which also prescribe them for the colleges affiliated to them. There is a board of secondary education in each state with responsibility for devising curricula and prescribing textbooks for secondary and higher-secondary classes. For the primary and middle stages, the responsibility rests mainly with the state education departments. The geographical coverage of curricula in universities extends only to affiliated colleges, and there is a common curriculum for secondary and primary education throughout each state.

The University Grants Commission, the boards of secondary education, and NCERT make substantial efforts to improve curricula at all levels. The University Grants Commission has paid particular attention to the question of restructuring first-degree courses and relating them to the needs of the rural and urban environments. The NCERT has also been engaged in the task of formulating an approach to curriculum development. State boards of secondary education continually undertake research and experimentation aimed at the improvement of curricula.

Several measures have been taken for the implementation of curricular reform. The University Grants Commission has undertaken a large programme to encourage university teachers to write books with reference to the Indian situation. The Department of Education (Ministry of Human Resource Development) funds the publication of the scholarly books in both Hindi, the national language, and regional languages. Textbooks at the secondary, middle, and primary levels are written mainly by teachers. Other measures to encourage the implementation of curricular reform include retraining teachers and the introduction of modifications in instructional methodology to emphasize the interaction of learners with the environment and laboratory experiments in science teaching.

Mahatma Gandhi pleaded for a needs-based, dif-

ferential curriculum in which learning is organized around productive manual work. Reiterating this, the Education Commission also called for increasing emphasis on work experience, national and social service, and ethical and moral values. While several efforts have been made to improve the curriculum and include socially useful productive work (SUPW) therein, in practice it continues to be devoid of manual work, and the traditional method of rote memorization and the habit of regarding education as synonymous with book-learning still hold sway.

7. Examinations

Examinations occupy a dominant position in India's educational system. Traditionally, what has mattered is the score obtained in an examination rather than the quality of education—and the two in fact are not necessarily related.

In practically all parts of the country, stages in the educational system are divided into grades or classes. Promotion from one grade to the next depends on continuous pupil assessment through terminal tests and, invariably, an examination at the end of the school session. At the initial stages, examinations are flexible and the internal concern of each school, but in the higher stages an external element in evaluation tends to increase, as do rigidities in the system. Certificates provided by school authorities are accepted for purposes of admission to secondary schools.

While examination of pupils at the end of grades 9 and 11 is the responsibility of schools, boards of secondary education conduct examinations at the end of the secondary (grade 10) and higher-secondary (grade 12) stages. In setting question papers and practical tests in science and certain other subjects, and in the checking of answer books, the boards employ the help of experienced school and university teachers. On the basis of the results of examinations, they award certificates which are required for admission to further courses or for employment.

Examination at the higher education stage is the responsibility of universities. Generally speaking, the universities have a strong examination branch which, in consultation with the academic faculty, is responsible for various appointments including personnel to set question papers, superintendents of examinations, and examiners of answer books. In some universities and other institutions of higher learning, the academic session is divided into semesters, and evaluation is undertaken in each semester.

Educational thinkers and specialists in evaluation and measurement have, for a long time, been concerned about the system of examinations. Rather than being an instrument for qualitative improvement of the educational system, examinations have had a disabling influence on teachers as well as pupils. They discourage reform and innovation by teachers and hamper the growth of pupils because of their normative assump-

tions. Furthermore, the very conduct of examinations is becoming increasingly difficult due to indiscipline and unrest on the campuses.

Reform of the examination system has been a continuous endeavour since independence. The Central Examination Unit was established in 1958 (it merged with NCERT in 1961) and a programme of systematic reform was started. The present reform programme is, by and large, based on the recommendations of the Education Commission and the experiences gained since then. These reforms cover external examinations as well as school evaluation and include a scheme for the intensive training of the various personnel responsible for examinations. The reforms have been adopted by practically all boards of secondary education.

The new policy underscores the need for carrying out examination reforms as a means of bringing about qualitative improvement in education. It seeks to de-emphasize the memorization and eliminate the element of chance and subjectivity. With a view to lessen the overriding importance of examinations and certification, and with the explicit intention of restoring the essential teaching/learning process to a position of eminence, the 1986 policy seeks to selectively delink degrees from jobs. The need to render education free from the subjugation of the mass job market has been felt now for several decades, but it is only in the new policy that it has been possible to put the suggestion somewhat concretely. As a concomitant to the proposal of delinking, it is proposed to set up a National Testing Service, to conduct tests on a voluntary basis to determine the suitability of candidates for specified jobs and to pave the way for the emergence of norms of comparable competence across the nation.

8. Educational Research

Systematic educational research is of recent origin in India. Research in universities leading to a Ph.D. began only after independence. With sociopolitical changes in the country, interest in educational research increased rapidly and by 1972 about 50 universities provided facilities for Ph.D. level research in education. In the 1950s, a number of institutions were set up by the central government for research in various aspects of education. In 1961, these institutions were amalgamated into NCERT.

Within a few years of its establishment in 1961, NCERT published two comprehensive lists of dissertations, at the M.Ed. and Ph.D. levels, completed in Indian universities. In the middle of the 1970s, the Indian Council of Social Science Research initiated a programme for surveying research in the social sciences. The Association of Indian Universities publishes, at regular intervals, subject lists of all dissertations approved in Indian universities. In the early 1970s, at the instigation of University Grants Commission, the Centre of Advanced Study in Education of the Maharaja

Sayajirao University of Baroda took up a project of abstracting all published and unpublished research studies and has since published two monumental surveys. These surveys contain classified abstracts of several thousand research documents.

The areas which have attracted the largest research effort are measurement and educational evaluation, as well as correlates of achievement. Closely following this group of topics are those of personality, learning and motivation, and curriculum, teaching methods, and textbooks. While the coverage of some subjects is impressive, the deficiencies are also glaring. For example, language teaching, school duration, wastage and stagnation, and student unrest—all burning topics of Indian education—have received insufficient attention. Similarly, the long-term impact of educational programmes, particularly of primary education and adult literacy, has received scant attention.

9. Major Problems

An opportunity for educational transformation in India was presented when she became independent in 1947. The whole nation was imbued by Jawaharlal Nehru's call of "tryst with destiny", the alternative of Gandhian basic education was universally accepted and persons with a profound understanding of the role of education in the building up of the new nation—Mahatma Gandhi, Jawaharlal Nehru, Abul Kalam Azad, Rajgopalachary, Radhakrishnan—were at the helm of affairs. However India's "brahmanical tradition", the age-old system in which instruction is imparted in a language known to a small coterie and formal education remains the preserve of a class of society, prevented any serious reform of education. India continues to have large numbers of highly trained technical, scientific and management personnel, but the vast majority of Indians continue either to remain deprived of education altogether or to receive poor-quality education.

The NEP (1986) is faced with tremendous odds, for it does not seem to be in tune with the socioeconomic trends in India. While there are signs of rising religious fundamentalism, the Policy stresses secularism; while the government favours free market economy, the Policy stresses egalitarianism and socialist society; while separatist and disintegrative forces are raising their heads in all parts of the country, the Policy calls for creation of a national system of education which would give a new sense of Indian identity and enable the country to move towards a new framework of national integration and social cohesion; the increasing centralization and authoritarianism in the central and state governments, the Policy stresses the need for decentralization, institutional autonomy and support for innovation. Perhaps in the short run something that is more disquieting is the prevailing atmosphere of dispiritedness and lack of accountability among the teachers and students in the university system. Yet it is this situation

which makes implementation of the New Education Policy a momentous and challenging task. There are already indications of the government's seriousness in carrying it through.

The government has decided that by 1989 6 percent of the national income will be spent on education. Every effort will be made to consolidate the existing system and to create necessary management apparatus for implementation of the new policy. The decade following the introduction of the NEP will show whether or not India is capable of taking hard decisions to transform the educational system with a view to bringing about fundamental changes in the socioeconomic order.

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Indonesia

R. M. Thomas

The Republic of Indonesia covers most of the world's largest archipelago, a domain of over 3,000 equatorial islands stretching more than 5,000 kilometers east to west across seas that separate continental Southeast Asia from Australia. It is the world's fifth most populous nation, with over 150 million residents in the early 1980s.

The extent of Indonesia was originally determined between the early seventeenth and early twentieth centuries by a succession of Dutch colonial conquests. Over a 350-year period, sea traders and soldiers from the Netherlands won control over more and more islands, eventually forming the Netherlands East Indies colony as it existed prior to the Second World War. Throughout this same period the Moslem religion, introduced earlier by traders from India, spread throughout the islands' peoples to become the dominant religion of the region.

In 1942, the Japanese army and navy captured the East Indies, ousted the Dutch colonists, and ruled the territory until the Japanese themselves were defeated by Allied troops in late 1945. Following the Japanese

surrender, the Dutch returned to reclaim the region. However, on August 17, 1945, the indigenous peoples of the archipelago declared their independence and then fought the Dutch army over the next four years until they won uncontested self-rule at the close of 1949.

The nature of the present-day Indonesian educational system has been significantly influenced by both the geography of the nation and the people's experience under Dutch colonialism and under Islam. One outcome of the geography of widely dispersed islands was the emergence over the centuries of a multiplicity of distinctly different cultural groups, a diversity of societies caused by peoples being separated by barriers of seas, mountains, and dense jungles. This isolation fostered the development of over 400 languages and dialects.

Such ethnic and linguistic variety has posed problems for both political leaders and educators. The question of what language would best serve as a national tongue, unifying the many subsocieties, was settled when independence was declared in 1945. The Republic's leaders

chose a version of Malay as the official language and labeled it Indonesian. Since that time, Indonesian has been learned willingly by virtually everyone. It has served as the language of government, of mass communication, and of instruction at all educational levels above the second grade of primary school. Local languages have been the media of instruction in the first two primary grades and have been taught as subjects in upper grades. Such a pattern of instruction is designed to promote the national motto of "unity in diversity" (*Bhinneka Tunggal Ika*). This language policy has faced educators with special problems in textbook production, teacher training, and teacher placement.

The nation's geography and the way the population is distributed across the islands have affected the efficiency of administering the centralized system of schools from the capital city of Jakarta on the island of Java. Because of the great distances between islands and the shortage of transportation facilities, school supplies and directives sent to remote islands can take months to arrive. The task of collecting accurate statistics from all parts of the nation for purposes of national planning has been difficult.

The rate of population increase has also strongly influenced the tasks of education. Under Dutch colonialism, prior to 1942, only a minor segment of the school-age population attended school. But, under the Republic, after 1950, the goal of providing every Indonesian with at least six years of primary schooling was included in the basic education law. The government sought to achieve this ambition by erecting more schools and training more teachers each year. However, a high birth rate and decreasing death rate continually accelerated the growth of the child population, so that by the early 1980s the goal of universal education still had not been reached. The burden of providing schooling was particularly heavy since such a large part of the population was under the age of 15 (46 percent of the population in 1975), that is, the nonproductive segment of the population, consisting of children who could not be expected to contribute effectively to the nation's economy. Prior to the 1970s, little or no effort was exerted to limit the birth rate. However, under the Suharto Government, which took office in the late 1960s, family-planning programs have been set up aimed at reducing the number of children born each year. According to the 1980 census, the growth rate was 2.34 percent. If such a rate continues, the nation's population will reach 200 million by the mid-1990s.

Two additional factors influencing the progress of education are political and economic conditions at different times between 1950 and the early 1980s. Under the government of President Sukarno, from 1950 until late 1965, the Dutch and other European interests that still played a significant role in the islands' economy were gradually eliminated and their enterprises nationalized. At the same time, the Indonesian Communist Party gained increasing influence over national affairs in comparison to other political factions, includ-

ing the religious parties. The bonds of national unity were also threatened during the 1950s by periodic armed rebellions against the central government on the part of separatist groups. These disturbances, coupled with an economic policy that spurned both local capitalistic enterprises and investment by foreigners, contributed to the accelerating decline of the nation's economy. Under such conditions, the ability of the educational system to fulfill its function deteriorated as well. While enrollments continued to increase, they did so at a slowing pace, school buildings fell into disrepair, teachers' salaries were insufficient to pay even minimal living expenses, pupil dropout rates were high, and class sizes were large.

In October, 1965, an unsuccessful coup attempt, for which the Indonesian Communist Party was held responsible, launched the nation on more than a year of civil strife and resulted in the fall of the Sukarno Government. The new Suharto Government welcomed investments and financial and technical aid from the West, and the economy rapidly improved. Because Indonesia's major export product is oil, increases in world oil prices since the mid-1970s brought large sums into the national treasury, and a significant portion of this income has been allocated to improving the educational system. For example, in 1973, President Suharto issued a special instruction providing extra funds from oil revenues to erect thousands of additional elementary-school buildings each year. By 1978 the number of such buildings in the public-school sector had reached 24,065, representing 30 percent of the nation's total of secular public schools. The 1980 national budget provided for the construction of 10,000 more and for the addition of 15,000 new classrooms in existing schools and the repair of 15,000 existing buildings.

In summary, the increase in political stability and economic prosperity over the 1950 to 1980 era was accompanied by increases in the size and quality of the facilities of the nation's educational enterprise.

1. Structure and Size of the Educational System

By the early 1980s, the nation's goal of achieving universal literacy and compulsory schooling for at least six years had not yet been reached. However, substantial progress had been made, so that by 1980 an estimated 70 percent of the population over the age of 10 had at least minimal reading skills, while perhaps 75 percent of children aged 7-12 were in primary school and 40 percent aged 13-18 were in secondary school (Postlethwaite and Thomas 1980 pp. 69, 72, *Rangkuman Statistik Persekolahan 1979/1980* 1981 p. 1).

These enrollment figures must be regarded as only general estimates, since the compilation of statistics in Indonesia has been confounded by two factors. Firstly, the system for collecting data from the nation's more than 160,000 schools spread across hundreds of islands is far from perfect. Secondly, schools are of two major varieties: secular (under the Ministry of Education and

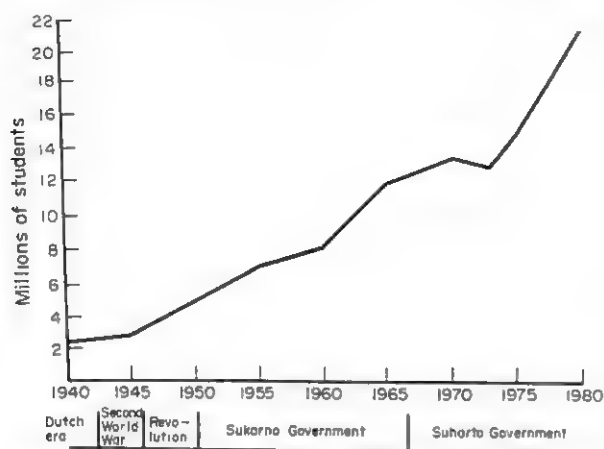


Figure 1
Secular primary-school enrollment 1940–80^a

^a Source: Indonesian Ministry of Education and Culture

Culture) and Islamic (under the Ministry of Religion). Some pupils attend only a secular school, some attend only an Islamic institution, and others are enrolled simultaneously in both a secular and an Islamic school (attending one in the morning and the other in the afternoon). Because of such double attendance, the process of computing the nation's total enrollment by adding together the totals of secular and Islamic schools results in overestimating the number of children receiving an education.

Although the numbers of students enrolled are imprecise, the trends are clear. Figures 1 and 2 trace the growth of attendance in secular primary and secondary schools from 1940 to 1980. The time-line across the base of each graph identifies the political eras that correspond

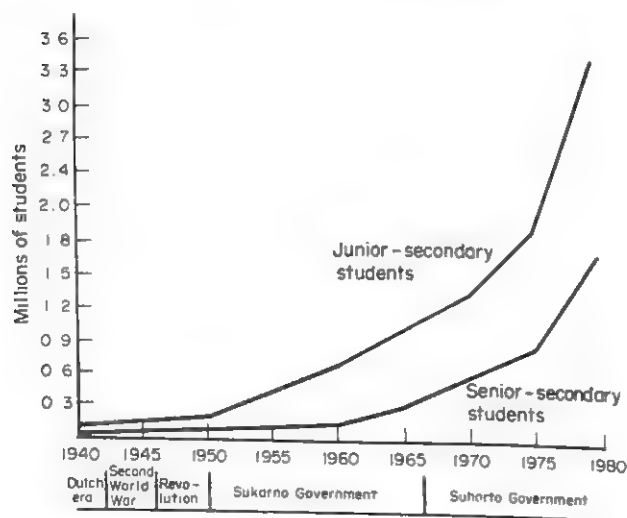


Figure 2
Secular secondary-school enrollment 1940–80^a

^a Source: Indonesian Ministry of Education and Culture

with school enrollment trends. As the graphs illustrate, the rise in enrollments has been particularly steep in recent years as increasing amounts of oil revenue have gone into constructing and equipping schools. In 1982, enrollments in non-Islamic schools administered under the Ministry of Education totaled 27,990,275 at the elementary level, 6,542,200 in secondary schools, and 616,117 in higher education. The proportion of males to females was 52/48 in elementary schools, 59/41 in secondary schools, and 68/32 in tertiary institutions. At the secondary level, 87 percent of the enrollment was in general academic schools, 9 percent in vocational schools, and 4 percent in teacher training. The teacher/pupil ratio in elementary schools was 1:29. Children in nursery schools and kindergartens, all of which were privately administered and financed, totaled 1,141,215 (UNESCO 1984).

The growth of higher education over the 30-year period from 1950 was even more dramatic than that of primary and secondary schooling. Since private schools were not obliged to send statistics to either the Ministry of Education or the Ministry of Religion, the exact total of postsecondary schools and students is not known. However, general estimates are available. In 1950, there were 10 higher learning institutions enrolling 6,500 students. By 1970 there were over 450 institutions and 237,000 students and by 1980 over 480 institutions and more than 400,000 students (Thomas 1973 pp. 13, 92, Indonesia, Departemen Pendidikan dan Kebudayaan 1980 p. 1, 1979 pp. 1–2, Indonesia, Departemen Agama 1980 p. 97).

The expansion of higher education has been motivated not only by Indonesia's modernization program which has called for more highly trained personnel, but it has been stimulated even more by an increasing demand for advanced schooling on the part of the populace. Studies conducted in the early 1980s showed that 90 percent of the students in representative high schools planned to enter higher learning institutions. Since the most prestigious public universities had room for only 10 percent of applicants in the early 1980s, increasing numbers of private colleges were being set up to accommodate the rejected applicants. In addition, demands from political leaders in outlying islands to have their own universities caused the central government to establish even more public institutions. In 1981, two new universities in Central Sulawesi were added to the nation's existing 40 public universities and institutes, despite the warnings of academicians that quality education could not be expected under conditions of rapid expansion in remote regions. Furthermore, because of increasing attendance in higher learning institutions the nation was faced with the prospect of growing numbers of unemployed college graduates and of youths overqualified for the jobs they could find.

To improve the quality of education under such conditions of rapid growth, the Ministry of Education in the early 1970s set up consortia consisting of academic departments of identical types in different universities.

The consortia are made up of departments of medicine, agriculture, education, the sciences, social sciences, and the like. The most mature universities in each consortium are designated as centers of excellence, responsible for upgrading the staffs and facilities of less advanced institutions.

In addition to the formal schools, Indonesia in recent years has developed a broad variety of nonformal programs intended to serve the needs of both the populace and the country's economic-development plans. During the 1970s, efforts in both the public and private sectors were directed toward increasing adult literacy, providing out-of-school primary and secondary education for school dropouts, improving community health, encouraging family planning, training adults in vocational skills and in ways of operating their own businesses, and improving agricultural practices through radio broadcasts. By 1979, more than 5,400 private commercial organizations operated vocational-skill courses attended by an estimated 900,000 participants (Postlethwaite and Thomas 1980 pp. 81-82).

2. Administration and Finance

Indonesia's schools, from kindergartens through universities, operate under a centralized system directed from the nation's capital in Jakarta, with directives channeled through educational offices in the nation's 27 provinces. Around 75 percent of educational institutions, including private schools sponsored by Christian societies and secular groups, are under the

jurisdiction of the Ministry of Education and Culture. Nearly all the remaining 25 percent are Islamic schools, public and private, operated under the Ministry of Religion. Many private schools receive government financial subsidies, a practice inherited from Dutch colonial times.

The types of school at each step of the educational ladder are shown in Fig. 3.

Funds for schooling derive from a variety of sources. The Ministry of Education finances teachers' salaries and the construction of facilities for secular secondary and tertiary education; the Ministry of Home Affairs does the same for elementary schools; and the Ministry of Religion is responsible for public Islamic schools. Private schools are funded by religious organizations, fees paid by parents, and government subsidies. In public schools in recent years, parents have paid a special educational tax for those of their children who are enrolled above grade three in a primary school. However, in addition, most schools individually charge parents a variety of special fees, although without government approval. As a result of these practices, the 5 or 6 percent of the national budget listed officially as the nation's annual expenditure for education is a marked understatement of the actual cost of schooling in Indonesia.

3. Curricula

The curricula of present-day schools reflect the two dominant educational streams of the past, Dutch and Islamic. Public and private schools under the Ministry of Education follow the Dutch tradition of offering such secular subjects as reading and writing the vernacular language, mathematics, natural sciences, social sciences, and—at the secondary level—foreign languages and vocational studies. At each grade, strong emphasis is placed on citizenship training which focuses on the nation's five key philosophical principles, the *Panca Sila*, consisting of belief in Almighty God, humanitarianism, nationalism, democratic representation, and social justice for all Indonesians.

The Islamic schools under the Ministry of Religion are of two main varieties. First are the traditional, nongraded *pesantren* schools, each consisting of a collection of students gathered at the educational complex of an Islamic scholar to learn Arabic, to intone the Koran, and to study the sayings of the Prophet Muhammad and Islamic law and traditions. Second are the graded *madrasah* schools which offer a combination of secular and Islamic subjects. The *madrasah*, which is the more modern of the Islamic schools, represents a combination of Islamic and Western traditions and is encouraged by the Ministry of Religion.

Until the mid-1970s, curriculum development in the Ministry of Education was carried out principally by personnel in the separate divisions of the ministry, with little or no coordination among the divisions. A team working on social studies in primary schools would

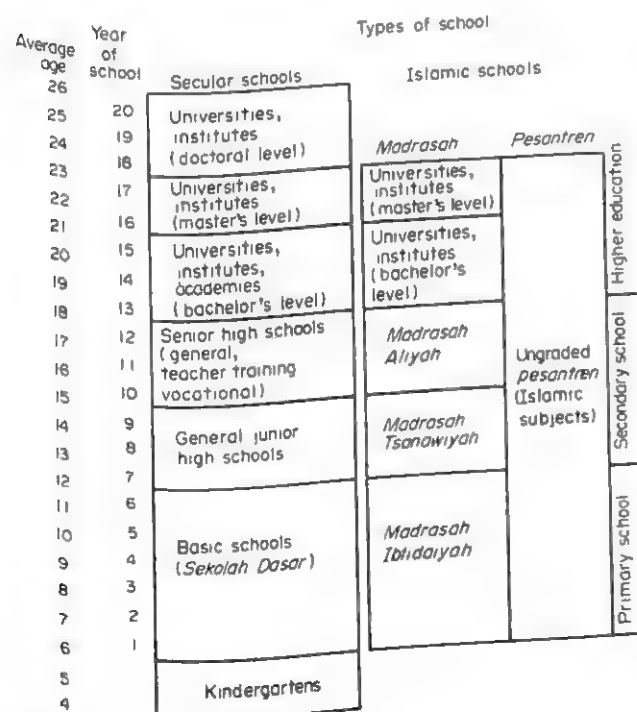


Figure 3
Structure of the education system

have virtually no contact with those working on social sciences or vocational studies in secondary schools. However, in the mid-1970s, a new research and development center in the ministry created a curriculum section that began to achieve a greater degree of coordination among both subject-matter fields and school levels. There were, however, still problems of integrating the efforts of the center with the work of the other divisions of the ministry, particularly in coordinating the nation's massive textbook publication program with the curriculum innovations that were instituted during the latter 1970s.

4. Examinations

For purposes of promoting students from one grade to the next within primary and secondary schools, teachers base their judgments on daily classwork and on the results of tests that teachers themselves create. In addition, at the end of the six-year primary schools and the three-year junior and senior-high schools, school-leaving examinations are administered. Over the past three decades, the source of school-leaving examinations has varied from time to time. During certain periods, the examinations have been constructed by a national board but at other times by regional or local committees. The results of school-leaving examinations determine whether a student receives a diploma for that particular school level. These results are also considered, along with entrance-test scores, as evidence in the choice of applicants to be admitted to the more highly selective upper-secondary and tertiary institutions.

5. Supplying Educational Personnel

In the early 1950s, after the Republic had emerged from four years of Japanese military occupation followed by the four-year revolution against the Dutch, the nation suffered an acute shortage of teachers. Not only had the existing supply of teachers been depleted by the social upheaval of the latter 1940s, but the nation was now seeking to expand educational opportunities to serve the entire population rather than the minority served during colonial times.

To solve the problem of teacher shortage, the government established a hierarchy of training programs at the beginning of the 1950s. The lowest level courses consisted of a short period of study for primary-school graduates who then became primary-school teachers. A more advanced training program for primary teachers was given in special junior-high schools, while a still higher level was offered in senior-high teacher-training schools. To provide secondary-school teachers, in 1954 the government opened the first of a series of teachers' colleges, offering a three-year program for preparing junior-high teachers and a five-year program for preparing senior-high instructors. The Ministry of Religion later created a similar set of secondary teacher-training

schools and colleges to provide teachers for Islamic primary and secondary schools.

By the 1970s, the standard qualification for primary teachers was a certificate from a teacher-training high school, while secondary teachers were qualified upon graduating from a teachers' college. However, compared to these standards, many of the nation's existing teachers were underqualified for their jobs. To upgrade the skills of the nation's educational personnel, the Ministry of Education began in the mid-1970s to provide inservice training that would reach virtually all teachers. A short course for primary teachers was given by teams of instructors from teacher-training high schools who traveled in motor vans and power boats to all sections of the archipelago. Courses for secondary teachers were offered in district centers. Radio broadcasts also played a significant role in inservice teacher education.

Traditionally, training for administrative positions in the educational system has consisted of on-the-job experience, and such continues to be the case for most headmasters (and headmistresses) and supervisory personnel. However, special training in administration is also offered in the teacher-training colleges and during workshops for administrators currently in service.

6. Educational Research

Educational research in Indonesia can be divided into two main types. The first consists of small, individual studies that serve as the subject matter for theses that students in teacher-education institutes write to earn master's degrees. Studies of this variety are seldom coordinated with the nation's overall educational development plans. To inform the educational community of the contents of such research, the major institutes of teacher education have, since the early 1970s, published collections of theses abstracts. The same abstracts are often also included with digests of journal articles and books in a series of annotated bibliographies published by the Ministry of Education (Arbi et al. 1972, Thomas et al. 1973).

The second major type of research is conducted chiefly through research and development centers, most of which are government sponsored. The most significant of these in the Ministry of Education and Culture is the Office for Educational and Cultural Research and Development (*Badan Penelitian dan Pengembangan Pendidikan dan Kebudayaan*). The office evolved in the early 1970s out of the first national assessment of education which was conducted over the 1970-73 period (Beeby 1979). The assessment project set a pattern of operation that influenced the structure and conduct of the office as it expanded rapidly over the 1970s and early 1980s. The pattern involved importing foreign research consultants, receiving financial support from foreign governments and international agencies, continually sending staff members abroad for advanced study, applying sophisticated research techniques, making widespread use of computer data processing,

and focusing all research activities on problems faced in the nation's five-year economic and social-development programs.

The variety of research conducted under the auspices of the office is illustrated by the following topics: the quality of student attainment at grades 6, 9, and 12 (Moegiadi et al. 1979), a modular instruction system for encouraging more active learning and for meeting individual differences in learning style (Soedijarto 1976), evaluation feedback to curriculum developers (Postlethwaite 1978), the preparation of educational evaluation models (Nasoetion et al. 1976), cognitive development and the readability of text materials (Thomas 1980), the effectiveness of inservice teacher training, the influence of classroom environments, and others.

Following the establishment of the Research and Development Office in the Ministry of Education and Culture, the Ministry of Religion set up a similar body. Subsequently, two regional research offices were established, one in East Java and the other in West Sumatra, to serve as experimental models that might be reproduced during the 1980s in other provinces. In addition, the leading institutes of teacher education in the nation maintain their own research and development centers.

7. Problems and Prospects

As in the past, the most serious problems for educational planners in the 1980s and 1990s will continue to be the rising number of candidates for schooling. Unless the population growth rate can be decreased substantially, there appears little hope that even the present levels of enrollment can be maintained. The goal of universal primary schooling is still a realistic expectation if the high level of funding for education made possible by high oil export prices in the 1970s can be maintained. However, during the early 1980s the drop in world crude-oil prices strongly affected the Indonesian economy and made the continued high investment in educational facilities and improved teacher salaries problematic. Expanding secondary-school facilities will become even more difficult in an economy of diminishing income from exports. Thus, reducing the population growth rate by means of the nation's family-planning program will be even more important in the coming years than it was in the past.

In addition to the problem of furnishing ever greater quantities of education, Indonesia faces the task of solving the deficiencies in the quality of schooling that were identified during the extensive educational evaluation programs conducted in the 1970s. Experimental projects designed to test ways of improving the quality of formal and nonformal education were assessed in the early 1980s so that features of the successful projects could be disseminated into the general school system beginning in the mid-1980s. The innovations that showed promise for such dissemination were ones involving self-instructional materials, improved text-

books, science-teaching methods, social sciences teaching methods (including history), a more efficient educational supervision system, preservice and inservice teacher education, achievement-testing programs, experimental services for the gifted and talented, as well as evaluation and modification of the 1975 curriculum.

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Iran

S. M. Redjali

Iran is a mountainous, high-plateau country of about 40 million people with 1,648,180 square kilometers, (636,363 square miles) stretching from the Caspian Sea and the Soviet Union in the north to the Persian Gulf in the south and from Turkey and Iraq in the west to Afghanistan and Pakistan in the east. Iran thus forms, strategically, the land bridge between the Middle East and Asia. The country is rich in minerals (i.e., copper, oil, gas, and coal), and exportation of petroleum is the principal source of foreign currency. Supported by revenues from oil sales, the economy grew rapidly during the 1970s and, as a result of shortages of skilled personnel, large numbers of foreign technicians were employed.

According to the census taken in 1976, the population then numbered 32 million, of which 15 million lived in urban areas. Some 44.5 percent of the total population is under the age of 15 and 52 percent is between the ages of 15 and 66 years. The average age was 22.6 years, and this is expected to decline. According to the census, of the population over the age of 7 years, 52 percent were illiterate. Between 1975 and 1980, the annual population growth rate was estimated to be 3 percent.

Historically, the Arabian conquest of Persia (Iran) in the seventh century brought with it an important change in methods of education. Before Islam, Persia was a despotic state, although the concept of justice in the creeds of the Zoroastrian religion tended to lessen the impact of this absolutism. The three duties of the otherwise dogma-free Zoroastrian religion were: pious thoughts, good deeds, and kindly speech. Parents were responsible for bringing up their children to become good, worthy citizens. Physical education (i.e., riding, shooting, and hunting) was also taught to ensure a sound body, which Zoroaster held was the temple of a healthy mind.

Only those of high birth were given a liberal education. Others entered a trade as apprentices. During the rule of the Sassanids, from 224 BC to AD 642, that is before Islam, the first university was founded in Djondishapur in southwest Persia. The syllabus consisted of theology, philosophy, medicine, literature, mathematics, and astronomy (Sadigh 1969).

After the Arab invasion (AD 642), Islam spread rapidly through Persia. Of the two main branches of the religion formed after Muhammad's death, the Shia branch—which holds that the leadership of Islam was bequeathed to Ali, the cousin and son-in-law of the prophet—became dominant in Iran. The influence,

however, contributed to the development of the cult of mysticism known as Sufism, which has greatly influenced Persian literature. Sufism is derived from the word *suf*, meaning the woolen garment of the ascetic. Poets and teachers were disciples of this mystic belief. The relationship between teacher and pupil on the mystic path to God interested the pedagogues. In this relationship, the teacher becomes the master to whom the pupil opens his heart. The master, in turn, directs the inner life of the pupil until such time as the youngster can find satisfaction and freedom in the Peace of God. This notion of the pupil's admiration for the teacher lingers on in modern Iranian education.

In order to gain an understanding of the development of education in Iran, a number of religious, cultural, linguistic, and historic considerations must be kept in mind. The religious influence in Iranian education has also been strong, although until the Islamic Revolution in 1979 the goal of state policy was to secularize education. Theology has, historically, been the most distinguished and prestigious of the sciences and has influenced all branches of learning.

For thousands of years, Iran has been a crossroads of cultures and civilizations and has hence been strongly subject to foreign influences. These have included the invasions by the Arabs, Mongols, and Tartars, and various forms of interventions by France, the United Kingdom, and Russia in the nineteenth and early twentieth centuries and by the Soviet Union and the United States in the period following the Second World War. Despite these foreign influences, the national culture and language have demonstrated remarkable continuity. Although modern Persian (Farsi) is written in an Arabic script and has borrowed heavily from the Arabic lexicon, it has retained its character and identity. It is usually estimated that Persian is spoken as a mother tongue by approximately one-half of the Iranian population, although it is the only official language and the sole language in which education is conducted. Proposals to teach primary or adult-literacy classes in the mother tongues of participants have usually been resisted as a threat to national unity.

The mosque served the Persians not only as a place of worship, but also as a center of learning. The curriculum consisted of the scriptures, logic, Arabic, and grammar. From this base, the Koranic school, called the *maktab*, eventually emerged. Learning by rote was compulsory, even though the lesson memorized was often not understood by the pupil. Discipline was strict. The *maktab*

was attended by children of the middle class. Upper-class families did not send their children to schools, but employed private tutors, who came to play an important role in family life, advising parents in all aspects of education. This traditional system of education was gradually, although never completely, displaced by a system of state education, modeled on the French educational system, which was introduced in 1894.

1. Goals of Education

In 1957, the Ministry of Education declared the following overall goals for education:

- (a) Physical development—pupils should learn sport and hygiene. This concern dates back to very early doctrines.
- (b) Social development—pupils should learn to respect their family, community, and freedom. They must also understand social and economic life and strive to live and work in and for the community. This idea could already be observed at the beginning of Islam.
- (c) Intellectual development—pupils should learn to think, preferably through their own experience. This is a European ideal.
- (d) Moral development—pupils should understand the word of religion, culture, and civilization and by doing this should exercise self-control. This has always been one of the main aims of Persian education.
- (e) Aesthetic development—pupils should love nature and strengthen their individuality by enjoying the arts.

A basic problem in Iranian education was and is that of reconciling traditional values with the development of a society based upon science and technology. Following the 1979 revolution, the Islamic Republic of Iran emphasized the moral training of individuals in society. The guidelines for schools were based on the principles and teachings of Islam, with great emphasis placed on strengthening and encouraging the faith of Islam. Particular importance was attached to the relationship between education and work. Young people were to be equipped with academic and scientific techniques and work skills in order to make them aware of the need for industrial and agricultural production (Ministry of Education 1979).

2. Structure and Size of the Educational System

The structure of the formal educational system is presented in Fig. 1. Preschool typically takes place in private institutions. The overall aim is to prepare children for school education. Activities include group games, narrating stories, singing, acting plays, and

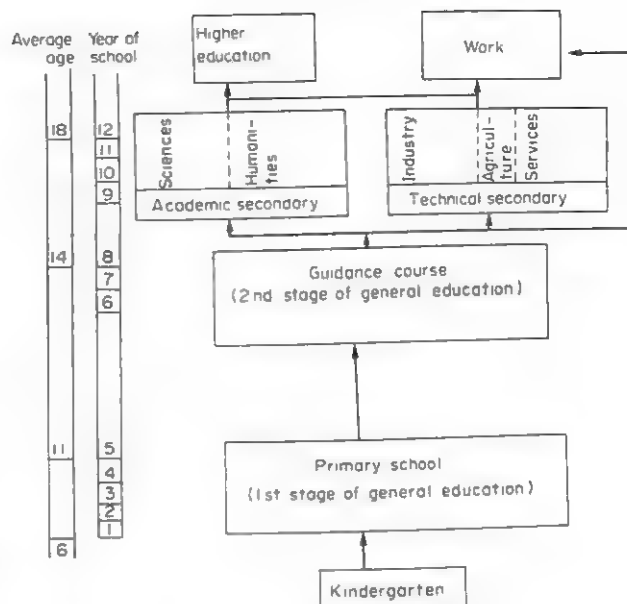


Figure 1
Structure of the educational system

handicrafts with simple tools such as paper, cardboard, and pen. In rural areas where local dialects are spoken emphasis is given to the learning of spoken and written Farsi, the medium of instruction in primary school.

Primary school begins at the age of 6 and lasts five years. In theory, if not always in practice, this leads to a guidance or orientation course lasting three years. Thus, there is general education of eight years, although all eight years are not compulsory. The three-year orientation course is when students are expected to decide upon their future occupations or academic pursuits.

Secondary education lasts four years and is divided into two main tracks. The older and larger of these is the academic track, which is subdivided into two main branches—sciences and humanities. The secondary technical and vocational line is less well-developed and comprises industrial and agricultural branches.

Higher education can be divided into teacher-training colleges—which may not require completion of secondary education as an entrance condition—and various colleges and universities. However, it should also be pointed out that a large number of university students studied abroad. In 1979, there were some 140,000 students studying abroad, of which 70,000 were in the United States and 30,000 in the Federal Republic of Germany.

Table 1 presents enrollments in 1975, 1977, and 1980 in schools at the different levels. In general education, the numbers mask urban-rural differences. In urban areas, about 95 percent of an age group was enrolled but in rural areas the equivalent figure was only 65 percent. In 1980–81, 62 percent of the total enrollment in primary and secondary education were boys and 38 percent were girls.

Table 1
Thousands of students enrolled in 1975, 1977, and 1980

Level	1975-76	1977-78	1980-81
Kindergarten	175.4	235.1	not known
Primary	4,468.8	5,029.1	4,816.0
Orientation course	1,283.7	1,446.3	1,577.0
Secondary	705.0	756.5	943.0
Technical and vocational	149.5	233.3	202.0
Primary teacher training	25.1	27.2	6.0
University and colleges	151.9	172.0	closed

Considerable importance has been given to non-formal education in Iran, particularly to literacy work. From 1967 to 1972, Iran participated in the World Experimental Literacy Programme organized by UNESCO and the United National Development Programme (UNDP). This project was carried out in two regions—Esfahan in central Iran and Dezful in the south—and stressed what was called “functional literacy.” Originally, this term was interpreted to mean that instruction in reading and writing should be combined with vocational training. Hence, special courses were organized for automobile mechanics or growers of sugarbeet. Subsequently, a broader interpretation had to be employed as the majority of the participants proved to be women and self-employed farmers. The experience gained in these experiments was used in developing a national literacy program which received professional support by the establishment of a National Center for Adult Education and Training. Despite these efforts, the adult illiteracy rate has remained high: an estimated 35 percent of men and 72 percent of women. The status of literacy efforts following the Islamic Revolution is uncertain, although the government has continued to stress the need to overcome the problem of illiteracy.

Following the World Conference of Ministers of Education, which was convened in Tehran in 1965, Iran played an active role in the promotion of literacy at the international level. It was this fact which led to the establishment of the International Institute for Adult Literacy Methods (IILM) in Tehran in 1968. The IILM served as an international documentation center on literacy as well as working in the areas of literacy research and training.

3. Administrative and Supervisory Structure and Operation

The organization of the modern educational system in Iran was closely modeled on that of France. It was, therefore, highly centralized. The Ministry of Education through its central bureaucracy and regional representatives administers and finances the public educational system at primary and secondary levels. Efforts

have, however, been made over the years—particularly in the 1970s—to establish regional education councils and to develop their role and authority. These councils are composed of representatives of the people, regional education officials, and teachers and school principals. They have some authority in allocating funds and developing curricula—functions previously reserved to the ministry itself—and a considerable range of administrative duties: employment, appointment, transportation, and the like. The Provisional Government of the Islamic Republic of Iran indicated its intention to expand the authority of these regional councils, although their status and activity in the early 1980s is not known with certainty.

In 1969, a separate Ministry of Science and Higher Education was established and entrusted with authority over higher education and research institutes as well as with responsibility for overall educational research and planning. There is also a Central Council of Universities, composed of chancellors of universities and institutes of higher education, which advises the ministry. Since 1980, all universities have been closed for reorganization, although they were gradually striving to reopen in 1983–84. It is not clear what form higher education will eventually take in Iran. The government has announced its intention to Islamize education at all levels, including higher education, but it is not known with precision what this will mean for the content or organization of higher education.

4. Finance

Education in Iran has been financed predominately by the government. Although private schools existed until the end the 1970s, they, too, were usually subsidized by government subventions or by provision of teachers and staff. Following the escalation of oil prices and government revenues in the years after 1973, both unit costs and enrollments increased rapidly. For example, expenditures on primary education increased 34 percent from 1976 to 1977 and by 38 percent from 1977 to 1978, whereas secondary educational expenditures increased by 52 and 37 percent in the same periods. None the less, the educational system was still unable to provide education for all. The shortage of places was particularly acute at the secondary and higher levels.

During the fifth development plan (1973–78), credits provided for education totaled the equivalent of US\$5.75 billion, compared with less than US\$2 billion in the preceding five-year period. As a percentage of gross national product, this represented an increase from 3.4 to 5.4 percent. It was planned to spend 32 percent of this amount on primary education, 12 percent on the guidance cycle or orientation level, 19 percent on secondary education, 18 percent on higher education, and 1.5 percent on adult education. In all, it was estimated that 30 percent of educational expenses would be made in the rural areas of the country. Precise information on the extent to which these proposed expenditures

were realized is not available, although expenditures in the first years of the plan exceeded anticipated outlays.

5. Supply of Personnel

From 1973 until the Islamic Revolution of 1979, the major constraint on the growth of the Iranian educational system was personnel and not money. In the cities and towns, the supply of teachers was sufficient to provide primary education for all, or nearly all, children who sought it, although many teachers were less than fully qualified and classes tended to be large. The unresolved crisis of Iranian education was and remains the provision of teachers for extending education to rural children. According to the Iranian constitution, primary education is compulsory—although its duration is not stated—and, by a law adopted in 1932, is free of charge. These legal provisions, however, have never been fulfilled. As early as 1943, the government adopted a program to achieve universal primary education within a decade, but this goal remains elusive. None the less, the expansion of education has been significant. In 1917–18, there were only 24,033 pupils in schools; by 1941, this had increased to 167,682, by 1960–61 to nearly 1.5 million, and by 1980 to nearly 5 million.

An important limitation on the rate of increase of primary enrollment was the capacity of the teacher-training institutions. The growth of such institutions was, in turn, limited by a shortage of qualified faculty. In order to cope with this problem, temporary measures were adopted. High-school graduates were employed and assigned to schools without preservice training. Normal schools (teacher-training colleges) were opened which accepted students who were not high-school graduates. Tribal normal schools, for example, enrolled women with only a primary education. The main problem, however, was that teachers could not be recruited for service in rural areas.

The establishment of the Education Corps in 1962 represented an important and innovative measure for confronting this problem. Instead of being drafted into the army under the compulsory-military-service law, young men who had completed secondary education were given the opportunity and monetary incentives for performing their national service as rural teachers. After a four-month training course, devoted to both basic military training and the elements of pedagogy, these corpsmen were assigned to rural schools, often establishing the school in which they were to serve. For every 15 corpsmen, there was one travelling supervisor, often himself a former corpsman. Upon completion of service, corpsmen were offered teaching assignments by the Ministry of Education.

A Women's Education Corps was also established. Whereas men were usually assigned to single-teacher schools, corpswomen were always assigned in pairs and often joined the faculties of established schools in small towns. Measures were also taken to provide significant financial incentives for service in rural areas. While

these measures resulted in a rapid growth of rural education, they were insufficient to provide schools for all communities or all children.

Teacher shortages also existed at the secondary level, particularly in vocational and technical education, where qualified graduates were attracted to well-paying jobs in the country's rapidly expanding industries. The expansion of the university system was expected ultimately to provide the required supply of secondary teachers.

Similarly, the rapid expansion of higher education created a demand for qualified faculty and administrators. Progress was made in satisfying university personnel requirements by recruiting returning graduates who had completed advanced studies abroad. The fact that nearly half of all Iranian students in higher education were studying abroad also served to relieve the pressure of enrollments at the tertiary level.

6. Curriculum Development and Teaching Methodology

Traditionally, curriculum development has been highly centralized in Iran. In the 1970s, however, efforts were made to broaden participation in the process of designating content and preparing instructional materials. Specialized committees were established to review the recommendations of local committees in the different regions and individual experts. Identification of the needs of primary education is undertaken by a coordinating committee on the basis of the work of the specialized committees. The specialized committees make suggestions about the course content and methods for each subject area at each class level. However, it is the coordinating committee which finally allocates the number of hours to be devoted to each subject area at each level. The results of the specialized committees and coordinating committee are sent to the Higher Council of Education for final approval. The council then gives the plans to authors to produce textbooks. Regional and provincial committees review the textbook-authors' products and suggest revisions. At the university level it is the faculties which determine the course content.

Table 2 presents the number of teaching hours devoted to subjects in general education.

Teaching methods were originally adopted from the religious *maktabs* and stressed rote learning. The fact that in the early years of the twentieth century classes were large and books scarce tended to reinforce this approach, as did the system of homework assignments, which usually involved nothing more than the recopying, often several times, of passages from a text. In the eyes of traditional educators, the best students were those who could recite their textbooks by heart. The teacher would demonstrate this by taking the book away from the student and asking him to continue his recitation. With the establishment of modern teacher-

Table 2
Number of teaching hours per subject in general education

Subject	No. of teaching hours		Total general education (8 years)
	Primary stage	Guidance stage	
Ethics and religious studies	416	192	608
Persian language and literature	1,600	512	2,112
Mathematics	608	480	1,088
Sciences and hygiene	416	480	896
History, geography, and social education	416	384	800
Art and handicrafts	704	192	896
Arabic language	—	64	64
Vocational and technical orientation	—	384	384
Foreign language	—	384	384
Physical exercise and training	320	192	512
Total teaching hours	4,480	3,264	7,744

training colleges, efforts were made to introduce active methods and some success was achieved in the better urban schools and, interestingly, among the young educational corpsmen and corpswomen who had not, as yet, been indoctrinated in the traditional approaches. The reform of teaching methods, however, has had to confront an entrenched educational establishment and strongly held educational values which hold mastery—that is, memorization—of a finite body of knowledge as the goal and meaning of education. The “knowledge explosion” has yet to have its impact upon primary education in Iran, although the education authorities are already confronted with the problem of reconciling old values to a transforming society.

7. Examinations, Promotion, and Certification

Promotion from one grade to the next is based on the results of an end-of-year examination. In each subject, children's work is scored on a 0 to 20 scale. An average score across subjects of at least 10 is required for promotion. Those falling below 10 must repeat the year. This system holds for all primary and secondary education. A similar system is used in teacher-training colleges and sometimes at university level.

At the end of general school, a regional test is administered and a certificate of general education is awarded to the successful candidates. Admission to secondary school, however, requires certain levels of performance in specific subject areas. A secondary-school-leaving test is administered in each province and, again, a certificate is awarded to successful students. Admission

to higher education is based on the results of an annual, nationwide test.

8. Educational Research

During the 1970s, Iran gave considerable attention to the development of institutions capable of carrying out educational research. The most prominent of these is the Institute for Research and Planning in Science and Education, which is attached to the Ministry of Science and Education. The mandate of this institute was to conduct research on the planning of national education—formal as well as nonformal—from preschool through the universities. Initially, the research of the institute stressed personnel planning and resource allocation, although this type of research was gradually broadened to include studies on the history and development of Iranian education, analysis of the socio-economic conditions of education, and research on the content of education. The National Center for Adult Education and Training played an important role in the conduct of linguistic research, in preparing curriculum for nonformal education, and in evaluating the socio-economic impact of literacy programs. In the fifth development plan (1973–78), it was decided to stress the development of research capacity in universities and to avoid the establishment of separate research institutes.

9. Major Problems

The 1979 revolution changed the form of government from a constitutional monarchy to an Islamic republic. In September 1979, the government nationalized all private schools, eliminated the teaching of Western foreign languages and coeducation, and reduced the study of music and the arts. Primary and secondary schools are open. Although universities were closed for three years, they are gradually striving to reopen in 1983–84.

It seems clear that Western educational methods have been rejected. Although the country acknowledges the need for science and technology, it wishes to change the manner in which these are taught. There is much talk of the inculcation of Islamic values and equity. How all of this will turn out in practice remains to be seen.

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Iraq

N. Y. Alnawwab

In the 1970s, Iraq's educational system witnessed far-reaching changes effecting a major expansion in the availability of educational facilities and enrolments. These changes are facilitating the rapid attenuation of a long-standing educational bias against women and the rural population. The catalysts for the changes were the enactment of compulsory primary education and the national literacy campaign. The form, content, and development of the Iraqi educational system have been shaped by the interrelation of three paramount factors: first, the economy and the requirements of the work-force structure; second, the population structure and the constraints it imposes on the development of education; and third, the developmental goals of the state.

The Republic of Iraq is situated to the northeast of the Arabian peninsula, and is bounded by Syria, Jordan, Saudi Arabia, Kuwait, and the Arabian Gulf on the west and south, and Turkey and Iran on the north and east. Iraq covers an area of 438,317 square kilometres (169,190 square miles), with a topography characterized by two major rivers, the Tigris and the Euphrates. The country's strategic location, and the discovery of oil in the earlier part of the twentieth century, engulfed Iraq in conflicts between the major powers of the day.

Though Iraq was under direct British rule for a short period (1914-32), British influence extended over a much longer period and covered many spheres of life. Iraq remained under British influence until 1958, when a revolution brought about a republican regime. The period 1958-68 was characterized by political instability and partially implemented policies. After a new regime came to power in 1968, a radical break was made with the policies that dominated earlier Iraqi development. The oil industry was nationalized (1972), and the agrarian reform that was initiated in 1958 was radicalized and implemented; vast financial resources were injected into the different sectors of the economy; and the state became the initiator and arbitrator of societal development.

Though Iraq's economy is characterized as agricultural, the influx of oil revenues has helped change the pattern of economic activity and ensured the high annual growth of the gross domestic product. The aver-

age annual rate of growth of gross domestic investment increased from 3 percent for the years 1961-70 to 27.2 percent for the years 1970-78, thus indicating the increase in the size of economic activity. As a major oil-exporting country, Iraq's dependence on oil is primary. This dependence, however, is not confined only to the field of exports in the earning of essential hard currency, for oil revenues constitute the single most important item in total state revenues.

The structure of the economy is reflected in the distribution of the work force according to field of economic activity and occupation. In 1977 the total economically active population was just over 3 million out of a population of 12 million. Sectorally 30.9 percent were in agriculture, 31.3 percent in services, 10.5 percent in construction, and the remainder distributed among the other sectors. The distribution of the economically active population, according to occupation, is even more pertinent to the educational system. Agricultural workers constituted 30.4 percent of the economically active population, and production and related workers totalled 30.8 percent. Professional, technical, and related workers were only 6.4 percent of the total, with the majority engaged in the services sector. It is important to note, however, that in 1977—before the initiation of the national literacy campaign—the percentage of illiterates among the economically active population was 48.2 percent, and only 29.5 percent had formal education.

The percentage of the total population which is economically active is small. This is due to Iraq's young population. Some 48.9 percent of the population are under 15 years old, and 36.1 percent under 10. Iraq's high annual population growth rate of 3.3 percent is surpassed by only a few countries. These, however, are not the only demographic features that educational policy makers face. The urban bias of the population structure has been steadily increasing, as observed by the population censuses of 1947, 1957, 1965, and 1977. In the last census, Iraq's urban population was 64 percent of the total population. At the same time, the population of the Baghdad Governorate constituted 27 percent of the total population. This situation necessi-

tates a relatively high level of concentration of educational facilities in Baghdad. Yet the dispersal of villages in rural Iraq make it difficult and costly to spread educational facilities in rural areas.

1. Educational Goals

The responses of the state to the problems outlined above can be seen from the literature of the Arab Ba'ath Socialist Party, which first came to power during 1963 and has held power continuously since 1968. One of the more comprehensive policy statements has been the political report of the Eighth Congress of the Arab Ba'ath Socialist Party of Iraq, held in January 1974. The central goals in the field of education were set as: first, the eradication of illiteracy; second, to make education, and in particular primary education, a right available to all; third, to ensure free education to all; and fourth, to coordinate and link education to national development needs.

2. Structure of the Educational System and Enrolment

The present structure of the educational system is the outcome of processes that began early in the twentieth century. During that period, the educational system centred on three types of schooling. The first was the traditional religious school, with a religious teacher giving lessons to a group of boys. The purpose behind such schooling was to acquaint and teach pupils the Koran. These schools should be viewed more as centres for limited and elementary religious training than schools in the modern Western meaning of the term.

The second type of schooling was through the schools provided for and financed by private charitable organizations. These schools had to acquire the approval of the state education authorities, and were subject to government inspection and control, including the stipulation that they follow the state curriculum devised by the Ministry of Education for all schools in the country.

The third type of schooling was provided by government schools. These were the most numerous of the two types of formal schooling available to Iraqis of school age. In 1930, the numbers of students and educational establishments were modest. During that year there were 291 primary schools with 30,888 students and 15 secondary schools with a student body of 1,863. There were also a few higher education establishments, namely in law, in medicine, and a teachers' institute. In addition, there were two technical schools and an engineering school.

Since then, Iraq has done much to make education available to a wider section of the population. By 1980, the formal educational system had a total of 3,824,417 registered students. This represented 28.9 percent of the total population and 61 percent of the population of the 4–21 age group. This was a fourfold increase from the total registered students of 1960, which was 934,958, representing 13.5 percent of the total population. This

was an 8.6-fold increase from the number of registered students of 1940, which totalled 108,205, or a mere 2.8 percent of the population at that time. The steady and substantial increase in the number of students since 1940 reflects the increasing awareness on the part of the population of the need for education and the expansion in educational facilities that made possible such enrolment in the different types of schools.

The educational ladder in Iraq starts with a two-year kindergarten, which pupils begin at the age of 4. In 1980, there were 387 such schools, with 76,507 pupils. Kindergarten pupils represented 8.9 percent of the population of the same age group for 1980. Although this percentage is small, the annual rate of growth in the number of pupils was 10.8 percent in the period 1957–70 and 18.8 percent in the period 1970–80.

The six-year primary schooling is designed for the educational needs of the 6–11 age group. During the years 1940–75, the annual rate of growth of registered students in primary schools was 8.9 percent. Although a steady growth in enrolment figures was evident, in 1974 only 62 percent of the population aged 6 were enrolled in primary schools. With the academic year 1978–79, compulsory primary education was introduced, and as a result 96 percent of the population aged 6 were enrolled in primary schools. By 1980, there were 11,280 primary schools with 2,612,332 registered students.

The next level of education—secondary schooling—is divided into a three-year intermediate school for those aged 12–14 and a three-year preparatory school for students of the 15–17 age group. In the latter, students begin to specialize in academic preparatory (science and arts) or vocational preparatory (industrial, agricultural, and commercial). In addition, there are a number of fine arts institutes, and teacher-training schools. These are considered equivalent to preparatory schools, also having as a prerequisite for admission the completion of intermediate education.

The number of secondary educational establishments for this level totalled 2,088 in 1980. Of that total, 1,891 were intermediate or academic preparatory. It is important to note, however, the increase in vocational preparatory schools from 38 in 1960 to 45 in 1970 and 143 in 1980, thus suggesting the development of a new trend in Iraqi formal education.

In 1940, the total number of students registered in secondary schools was 16,864; by 1960, it had increased to 153,091; and by 1980, it totalled 1,033,148. This represented a 10.8 percent annual growth rate for the period 1940–80. It is worth noting that, in 1965, the percentage of registered secondary-school students in the 12–17 age group was 25.1 percent, and by 1980 it had risen to 54 percent.

Higher education is organized around technical institutes and colleges. Both offer postsecondary education. Courses in the former last for two years and in the latter from four to six years depending on the area of specialization.

Technical institutes are a recent educational innovation in the system and should be viewed in conjunction with the support given to vocational secondary education. These institutes were started in the latter part of the 1960s and had become an integral part of higher education in Iraq by 1972. In that year, there were five such institutes with 2,138 students. By 1980, the numbers had increased to 24 institutes with 20,649 students.

The main educational establishments for postsecondary education students are the 58 colleges organized in six universities. In 1980, there were 84,857 undergraduate students and 1,848 postgraduates. Although in 1980 the percentage of registered students engaged in higher education represented only 10.2 percent of the corresponding age group of the population, the annual rate of growth for the period 1940–80 was 14.1 percent.

Despite the growing rate of enrolment in formal education, the problem of illiteracy among the age group 15–44 remained until the mid-1980s. Between 1957 and 1977, the percentage of illiterates of the 15–44 age group dropped from 90.1 percent to 50.5 percent. The main features of illiteracy in 1977 were the high rate among women and in the rural population, suggesting that the improvement in literacy rates during the period 1957–77 was mainly among urban males. The response of the state to this problem was, first, to enact a national campaign for the eradication of illiteracy; second, to make it compulsory for those completing literacy programmes to enrol in "popular schools", thus ensuring the completion of the equivalent of primary education; and third, the enactment of compulsory primary education to prevent any further illiteracy.

In December 1978, the national campaign was initiated. By the first quarter of 1981, nearly 72 percent of illiterates had either completed the literacy programme or were enrolled in illiteracy-eradication centres. The figures indicated that in general the percentage rate of participation of women in the programme was greater than that of men and that the response among rural women was high. By mid-1981, approximately 63 percent of the total number of illiterates were registered in popular schools. What made the high enrolment rate in popular schools possible was the priority given to the campaign by the state. An administrative structure was created for the purpose, and the facilities of the formal educational system, especially teachers and buildings, were made available, to ensure the success of the campaign.

3. Administration and Finance

One of the characteristics of the Iraqi educational system is its uniformity throughout the different regions of the country. A major reason for this has been its high degree of centralization, with responsibility for decision making and supervision being in the hands of only a few central offices. The Ministry of Local Government is

responsible for the administration of kindergarten and primary education, while in technical and educational matters the Ministry of Education has final control. The Ministry of Education has total responsibility for the remaining levels of general and vocational education. The situation with regard to higher education is delineated less sharply, with the six universities and the Foundation of Technical Institutes having wide powers, sometimes shared and/or coordinated by the Ministry of Higher Education and Scientific Research.

Throughout the history of Iraqi formal education, private education has formed only a small part of the educational endeavour, and in 1974, education became controlled, supervised, and financed totally by the state. Financing is basically of two types. The first is through the state budget, which covers the expenditure of the different educational agencies. The second is the investment expenditure on educational projects allocated by the Ministry of Planning in coordination with educational agencies. The scale of state financial support to education is indicated by increasingly high allocations. During the period 1960–76, the annual rate of growth in educational expenditure from the state budget was 11.3 percent, and in investment expenditure was 14.8 percent. The average share of both types of expenditure of gross national income, for the same period, was 5.1 percent. The magnitude of state expenditure on education made possible the introduction in 1974 of free education at all levels. This policy included the provision of all necessary books and educational aids, as well as free dormitories (according to availability).

4. Teachers, Curriculum, and Examinations

The size of the educational endeavour and the high rate of growth in student enrolment have resulted in shortages of teaching staff for the different levels of education. The extent of shortages varies according to level and specialization. Between the years 1960 and 1980, the total number of teaching staff, for all levels, increased from 30,684, to 137,430. Primary-school teachers formed the largest group, though their percentage of the total declined from 81.9 in 1960 to 68.3 in 1980. To check and reduce the shortage of teaching staff, a number of policies were undertaken to increase enrolment in universities and teacher-training programmes. The results of these policies are encouraging, for the ratio of students to teachers improved at all levels during the period 1960–80. The ratio for kindergartens steadily improved from 43 pupils per teacher to 24. The next two levels (primary and secondary) witnessed a certain vacillation. However, an improvement was registered when the ratio dropped from 30 to 28 students per teacher for primary schools, and 37 to 33 for secondary (not including vocational) schools. A similar improvement can be noted for vocational, technical, and university education, where the ratios are far smaller.

Qualifications and training of teaching staff vary

according to level. For those teaching in higher education, holders of master's and doctorate degrees formed 70.3 percent of the total, with the majority having a science specialization. Though the number of short training programmes is limited, none the less there are wide opportunities for non-doctorate teaching staff to undertake further specialized education.

For teaching staff at pre-university levels, there are two main types of training. The first is preservice, through teacher-training schools, teacher-training institutes, and colleges of education, which partly cover the need for qualified teachers. The second type is inservice teacher training. This is organized by a specialized department at the Ministry of Education. The methods used are varied, ranging from self-study assignments through video and television programmes to seminars and workshops.

In recent years, curriculum development has acquired special importance as a result of political and ideological changes in the state. This has manifested itself not only in comprehensive changes in curriculum in the 1970s, but also in the high degree of centralization of curriculum control by the two ministries concerned (the Ministry of Education and the Ministry of Higher Education and Scientific Research). The procedure for curriculum and textbook development ensures the participation of specialists in curriculum committees. The final approval, however, of curriculum, courses, and textbooks rests with the ministries.

One of the areas least affected by change has been the system of examinations. Basically, students are promoted to the next grade by school examinations determined by individual educational establishments. However, promotion to the next educational level is controlled by the student's performance in national examinations organized by the Ministry of Education. The only exception is the primary national examination, where the final grade is evenly shared with school examinations. National examinations not only ensure uniformity of standards in the country but have also become the main tool for selection of students for higher education.

5. Major Problems

Historically, the educational system in Iraq faced what could be regarded as traditional educational problems

of a kind that engage most developing countries, such as paucity of educational opportunities for women, education imbalance between rural and urban areas, and low enrolment ratios among children. The recent Iraqi experience, as outlined above, strongly suggests that these problems find their resolution in the political arena, where goals are formulated and decisions made that impel the educational system to develop. Accordingly, policies pertaining to compulsory primary education and the national literacy campaign are contributing not only to the resolution of the above-mentioned problems, but are making more pertinent a new set of priorities. The percentage of women in higher education is at present 30.4 percent of the total number of registered students at that level, and all indications point to an even greater percentage in the near future, especially since, in 1980, females constituted 32 percent of the secondary enrolment and 47 percent of the primary enrolment. This trend makes imperative the need to examine future changes in the occupation structure of the work force in the light of changes in the educational system.

Also relevant to the structure of the country's work force is the fact that the majority of students are at present engaged in science subjects in secondary and university education. In addition to this trend, as noted earlier, there is an accelerated development in vocational and technical education. This presents the need for coordination between work force and educational planning, and to make education more sensitive to changes in science and technology.

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Ireland, Republic of¹

T. Kellaghan

The Republic of Ireland occupies 70,282 square kilometres (27,136 square miles), which is 84 percent of the

area of the island of Ireland. The island was part of the United Kingdom of Great Britain and Ireland until 1922, when it was divided into Northern Ireland, which remained in the United Kingdom, and the rest of the country (the Irish Free State, later the Republic of

¹ The author is indebted to Marie Ferriter and Elizabeth Neuman for assistance in the preparation of this paper.

Ireland) which became independent and is the subject of this article. The educational systems which have served the two parts of the island over the past 60 years are descended from a common system which had served the whole island and which developed substantially in the nineteenth century. The establishment of educational institutions at all levels was affected by a struggle between state and church, both of which sought control of education, but neither of which could exercise it on its own. The symbiotic relationship has continued, and today's system in the Republic still reflects the rapprochement which was worked out in the last century. Most schools are nondenominational in law and are largely financed by the state, but are denominational in terms of ownership and management.

A state-supported system of primary education was established in 1831, 40 years earlier than in England. Second-level education developed more slowly and haphazardly and it was not until 1878, in the Intermediate Education (Ireland) Act, that a method of state funding, which facilitated the further development of the system, was agreed for church secondary schools. Ireland has had a university since the end of the sixteenth century; further university institutions were established in the middle of the nineteenth century.

The influences of both state and church are reflected in the curricula and structure of the system. The state has made use of its authority to control curricula. When the country was part of the United Kingdom, schools were used to promote anglicization, especially the use of the English language. Following the establishment of the Irish Free State, the promotion of Irish culture and in particular the Irish language assumed central importance. A feature of the system today is that a second language (Irish) is a compulsory curriculum subject in first- and second-level schools; although it is an official language of the country, it is spoken as a first language by a very small minority. Religious education, though not mandatory for individual students, also occupies a central position in schools. In official government reports, the primary purpose of both elementary and secondary education has been stated to be religious and moral education. The influence of the churches is also apparent in the structure of the system. Since separate schools are provided for each denomination, there is a relatively large number of small schools.

The main factor contributing to the large number of small schools in the system, however, is the low density of population in the country—in 1976, some 45 inhabitants per square kilometre, the lowest in the European Economic Community (EEC 1977). As this figure would suggest, a high proportion of the population lives in rural areas. In 1979, some 21 percent were engaged in agriculture (the highest in the EEC) while 32 percent were engaged in industry (the second lowest in the EEC) (EEC 1981). The system of education for most of its history was not very sensitive to the structure of the economy in which it functioned. Indeed its early development cannot be explained in terms of the industrial,

urban, or political changes which are often used to explain the development of educational systems in other countries during the last century (Akenson 1970). While efforts were made from time to time to relate school curricula to the agricultural background of students, the system, especially at second level, seems to have been geared towards preparing students to leave agriculture rather than to participate in it. This, however, could hardly be said to represent any coherent policy. It was not until the 1960s that serious attempts were made to adjust the educational system to economic factors.

While the country continues to have a relatively large number of small schools, several factors have led to a reduction in their number. A major factor was a steady, downward trend in overall population (from 6.5 million in 1841 to 2.82 million in 1961). This was largely due to emigration, and is reflected in a decrease in the number of national (primary) schools from 5,636 in 1924 to 4,882 in 1959. Since 1961 there has been an increase in population in the country (in 1979, it was 3.36 million), but the number of primary schools has decreased to 3,415. The decrease is due to a number of factors—government policy of rationalization of resources, a shift in population from rural to urban areas, and a change in the Catholic Church's attitude to mixed-sex education.

The recent increase in population in the country has led to considerable pressure on the educational system. The pressure is all the greater because of the structure of the population; in 1979, some 30.6 percent of people were less than 15 years of age (EEC 1981). Ireland has a larger proportion of its total population (about 23 percent) at school than any other country in the EEC. The number of second-level schools has increased to meet the growing demand. Whereas there were about 354 second-level schools in 1924, the figure now is 877.

The 1960s constitute a key period in the development of Irish education. During that and the following decades, a number of quantitative and qualitative changes occurred in the system. While the objectives of the changes have not been very explicitly stated, they can be related to major aims of social policy in the country. These aims have been identified as economic (increased productivity and economic growth), egalitarian (equalization of opportunity), and humanitarian (the relief of poverty and the provision of a minimum standard of education for all) (Kennedy 1975).

The economic justification for increased expenditure on education was made explicit in the second (1963) and third (1969) government programmes for economic expansion and in the *Investment in Education* report (Ireland, Department of Education 1966). Attempts to introduce greater efficiency to the system are exemplified in the consolidation of existing school facilities while the provision of resources to develop technological and technical skills was carried out to promote growth in the supply of skilled personnel as part of a programme of accelerated economic and social devel-

opment. It was believed that investment in education would provide returns similar to those from investment in physical capital. In these developments, support was obtained from foreign agencies, particularly the OECD, UNESCO, and the World Bank. The policy of equalizing opportunity is reflected in a wide range of government actions: provision of government funds for capital expenditure on secondary schools (1964); the attempts from the mid-1960s to make the curricula of second-level schools more comprehensive; provision at second level of free education and free transport to schools (1967); the raising of the school-leaving age from 14 to 15 (1972); and programmes to deal with the disadvantaged (1969). The humanitarian aims are reflected in programmes for the disadvantaged as well as in increased provision for handicapped pupils.

The success of the policies of the 1960s and 1970s in terms of the quantitative expansion of the system can be seen when enrolment patterns are considered (see Sect. 1). There has also been an expansion of technical and technological courses, though the emphasis in second-level education on academic subjects has only been disturbed, not dislodged; the preference of the population for such education remains. The realization of egalitarian objectives also has been limited.

1. General Structure and Size of the Education Effort

In 1980, a total of 565,742 children between the ages of 5 and 12 were served by primary schools. There were 3,415 such schools supported by the state; of these, 110 were special schools for the handicapped and were attended by 1.4 percent of pupils. A further 97 primary schools, serving 3.2 percent of pupils, did not receive state aid (Ireland, Department of Education 1981). There are eight grades at primary-school level.

Second-level students attend one of four types of school: secondary, vocational, comprehensive, and community. Secondary schools are similar to grammar schools or gymnasia in other countries; they attract the more able students, emphasize an academic education, and prepare students for third-level education and white-collar occupations. Vocational schools emphasize technical and vocational subjects and their students are generally destined for blue-collar occupations. Since the 1960s, the programmes of both types of school have been broadened but the schools still maintain their traditional orientations. Comprehensive schools were built between 1966 and 1974 in an attempt to construct a unified second-level educational system; as their name implies, they provide a wide range of curricular offerings. Community schools, the first of which was built in 1972, represent a development of the comprehensive concept; in addition to being comprehensive in curriculum, it was envisaged that they would become involved in further educational activities and that their facilities would be available to local communities. A small num-

ber of other schools are nonaided or are aided by the Department of Agriculture. Second-level schools are divided into two cycles: junior (usually of three-years duration) and senior (usually of two-years duration). A public examination is held at the end of each cycle. Most schools cater for students in both cycles. Of 295,592 second-level students in the system in 1980, some 67 percent were attending 527 secondary schools, 23 percent were attending 246 vocational schools, 8 percent were attending 15 comprehensive and 30 community schools, and just over 1 percent were attending 59 other institutions (Ireland, Department of Education 1981).

Third-level education is provided in universities, technological colleges, colleges of education, and a number of other institutions which provide courses in areas such as art, music, commerce, and theology. There are two universities, one of which has three constituent and six recognized colleges. In 1980, there were 38,890 students receiving full-time education in third-level institutions; of these, 62 percent were in university institutions, 22 percent in technical/technological colleges, under 7 percent in colleges of education (primary), and under 10 percent in other institutions (Ireland, Higher Education Authority 1981).

A number of institutions and agencies, including schools and colleges, are engaged in various aspects of nonformal education serving clients from early childhood to adulthood. Many of the organizations involved are voluntary; some receive state aid. The activities covered include cultural enrichment, literacy, physical and health education, agricultural education, art, crafts, and a variety of technical skills. In the case of adult education, a government *White Paper on Educational Development* (1980) recommended that special consideration be given to the needs of the disadvantaged, the illiterate, and those wishing to avail themselves of second-chance education. Because of the variety of activities and the large number of voluntary bodies involved in nonformal education, a comprehensive description of available services is not available.

All three sectors of the formal educational system have exhibited growth over the past 25 years (see Fig. 1). Increase at first-level reflects an increase in general population rather than an improvement in participation rate, which is over 99 percent for the relevant age groups. Growth in numbers attending second-level schools has been more marked and reflects recent attempts to improve participation. The growth at third level is probably to some extent a knock-on effect of second-level growth. There is little dropout from the system up to 14 years of age. Some 85.2 percent of 15-year-olds still receive full-time education. This figure drops to 68.2 percent for 16-year-olds (compared to 37 percent in the early 1960s), to 49.6 percent for 17-year-olds, to 25.9 percent for 18-year-olds, and to 14.8 percent for 19-year-olds (Ireland, Department of Education 1981).

Females are slightly better represented in the system

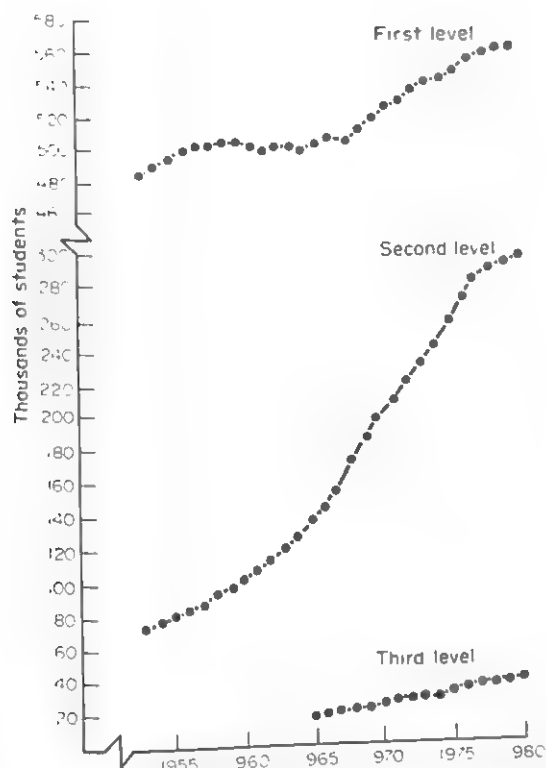


Figure 1
Enrolment in education 1953-80^a

^a Data were obtained from the *Annual Reports* (1953-71) and *Statistical Reports* (1972-80) of the Department of Education. Since data in these reports are not always comparable from year to year, the values in the graphs should be treated as approximations.

than males; in 1978, some 59.5 percent of females aged 5-24 years attended school as against 58.4 percent of males (EEC 1981). There are proportionately more females than males in second-level education, while the position is reversed for third-level education. There is evidence that the higher social class groups are over-represented. Disparities in participation rates by area and of residence have also been reported for second- and third-level education.

2. Administration

The administration and management of schools in Ireland involves a complex balance of private and public interests, local and central control. Each primary school is managed by a local board, made up of representatives of a church, parents, and teachers. At second level, secondary schools are private institutions; most are owned and managed by religious bodies. Other second-level schools (vocational, comprehensive, and community) are governed by local boards on which a variety of interests are represented. Most third-level institutions

operate under statutory governing bodies. In general, the responsibilities of management or governing boards of schools are limited to the provision of a small portion of the capital and current expenditure incurred by schools, to the appointment of staff, and to the maintenance of plant.

The Department of Education of the central government meets most of the costs of first- and second-level schools (building, teachers' salaries, and general running costs). It also provides most of the funds for third-level education, though in the case of some institutions, particularly universities, funds are channelled through a Higher Education Authority. This high level of financial support is accompanied by a central control of schools. The control is exercised by the minister for education mainly through recognition of schools, specification of curricula, inspection, and teacher recognition at first and second levels and by the operation of public examinations at second level. The minister has less control in the university sector but retains considerable powers in the technological and teacher-education sectors.

3. Financing

The bulk (about 98 percent) of public-authority spending on education comes from the central government; the rest is provided by local authorities. The statistics in this section relate only to the former and are based on data contained in the Central Statistics Office reports *National Income and Expenditure*. Expenditure on education has risen steadily over the past 25 years—from about IRL£14 million in 1956 to an estimated IRL£775 million in 1982. In 1956, such expenditure represented 8.5 percent of total government expenditure; by 1966, it had risen to 11.8 percent, in 1976 it was 11.5 percent, and the 1982 figure represents 12.0 percent of estimated expenditure (Ireland, Central Statistics Office 1973, 1981; Ireland 1982). Government expenditure on education as a proportion of gross national product (GNP) has also grown steadily. In 1956, it was 2.5 percent, by 1976, it had risen to 5.9 percent, and in 1982 it was expected to reach 6.4 percent (Ireland, Central Statistics Office 1958, 1981; Ireland 1982).

Approximately 80 to 85 percent of the costs of education in the country are met, directly or indirectly, by government (central and local). The remainder is met by voluntary contributions raised by local communities and church bodies and tuition fees paid by students in third-level institutions and in a small number of first- and second-level schools.

According to EEC statistics, 35 percent of central government expenditure goes to the primary sector, 36 percent to second-level schools, and 23 percent to third-level institutions (a further 2.3 percent goes to special education, mostly at first level, and 3.6 percent is used for other purposes) (EEC 1977). Over the past 50 years, there has been a considerable shift from first-level to

second- and third-level education in the proportions of funds allocated to the three sectors.

Grants or scholarships are available to students in third-level institutions who attain a prescribed standard in Leaving Certificate examinations and whose parents' income falls within specified limits. There are three major types of subvention: local-government-authority higher education grants, local vocational-education-committee scholarships, and EEC training grants. In 1980, some 28 percent of students attending third-level institutions held grants or scholarships (Ireland, Department of Education 1981).

4. Teachers

In 1980, there were 19,002 full-time teachers in primary schools, 11,669 in secondary schools, 4,633 in vocational schools, and 1,545 in comprehensive/community schools. There was also the equivalence of a further 1,588 teachers working part-time in second-level schools (Ireland, Department of Education 1981). At present, there is an oversupply of teachers.

Up to 1974, primary-school teachers followed a two-year course leading to a nonuniversity diploma in a college of education. In that year, colleges of education entered into an arrangement with the universities, and a three-year course leading to a Bachelor of Education degree was established. A one-year diploma course is available to students who already hold a university degree. There are two types of preparation for second-level teachers: for teachers of academic subjects, a university degree and a postgraduate diploma in education; for teachers of nonacademic subjects (woodwork, home economics, or physical education), a degree or diploma awarded by the National Council of Educational Awards.

5. Curricula

Curricula for first- and second-level schools are approved by the Department of Education of the central government. Up to the 1960s, a uniform curriculum, prescribed by the department for each grade, was followed in all national (primary) schools and a public examination (Primary Certificate) was set for pupils in their final year. The examination was abolished in 1967 and a new curriculum, which had been drawn up and field-tested by a committee of school inspectors, was introduced to schools in the 1970s. The curriculum is broader in scope than the old one and recommends an informal rather than a formal approach to teaching it; it emphasizes learning rather than teaching, sensitivity to individual differences between children, integration of subject areas, and adaptation to local needs.

At the second level, syllabi for individual subjects are published annually by the Department of Education in its *Rules and Programme for Secondary Schools*. In

1981, some 26 subjects were approved for junior pupils and 31 for senior pupils. The subjects are grouped into five categories: languages, sciences, applied sciences, business studies, and social studies. Since the 1960s there has been a broadening of the curriculum, particularly in regard to technical and commercial subjects. Efforts to increase the range of subjects available to individual students in schools have been made through the institution of comprehensive/community schools, the amalgamation of the resources of secondary and vocational schools, and the extension of the range of subjects offered in traditional secondary and vocational schools. Guidance and psychological services are provided to assist students in educational and vocational planning.

Supporting textbooks for curricula are generally produced by teachers. In their production, publishers liaise with inspectors in the Department of Education; books have to be approved for use in primary schools. Curriculum implementation and standards in individual schools are monitored by inspectors of the department. There is also a curriculum unit in the department which is responsible for monitoring the overall structure and functioning of curricula.

Few formal studies exist on the subject of teaching methods in schools. While teachers generally accept the principles of the new curriculum in primary schools, formality, as well as informality, continues to be a feature of teachers' approaches, particularly with older pupils. In second-level schools, teaching methods seem to be influenced by the nature and content of public examinations.

6. Examinations

As in many other European countries, public examinations are a prominent feature of the Irish educational system. These are now confined to second-level schools. Since the abolition of the primary-school-certificate examination, principals in primary schools provide an assessment of a pupil's progress on a cumulative record-card which may be transmitted to the second-level school to which the pupil proceeds. Promotion within primary schools from grade to grade is automatic.

Three public examinations are set by the Department of Education for second-level students. Each examination is held at the end of the school year. Two of the examinations concern students in the junior cycle, one is for senior-cycle students. The Day Group Certificate examination was formerly taken only in vocational schools; today, it is more widely available. It includes examinations in academic, technical, and practical subjects. Normally it is taken following a two-year course when the student is 14 or 15 years of age. The Intermediate Certificate examination is taken at the end of the junior cycle, after an approved course of not less than three years, when students are 15 or 16 years of age. The Intermediate Certificate is more academic than

the Group Certificate and formerly was confined to secondary-school students; examinations in 25 subjects are offered. The final and most important examination—the Leaving Certificate—is normally taken two years after the completion of the junior cycle when students are 17 or 18 years of age. It offers examinations in 31 subjects, some of which have “higher” and “lower” levels. Most students sit for examinations in six to eight subjects. In 1980, there were 17,483 candidates for the Group Certificate, 51,222 for the Intermediate Certificate, and 36,539 for the Leaving Certificate (Ireland, Department of Education 1981).

Both the Intermediate and Leaving Certificate examinations are generally regarded as too academic for the number of students who now sit for them. An additional drawback in the case of the Leaving Certificate examination is that results obtained on it are used for predictive purposes (admission to higher education and selection for employment) as well as for certification of the completion of second-level education. Alternative approaches to assessment at the completion of the junior cycle have been recommended but have not been implemented.

7. Educational Research

Prior to the 1960s, empirical research in education was isolated and sporadic. The setting-up of the Educational Research Centre in 1966 may be seen as a step towards widening the scope of and making for greater continuity in such research. The Linguistics Institute of Ireland was set up in 1972 with responsibility for carrying out research in language, particularly Irish. Both institutions are funded by the Department of Education. Universities and an independent research organization, the Economic and Social Research Institute, also carry out research in education. Major research projects have been concerned with curriculum and programme evaluation, school effectiveness, economic aspects of education, evaluation techniques, bilingualism, language teaching and learning, and policies of equalization of opportunity.

8. Major Problems

Major problems perceived in the system at present relate to equalization of participation in noncompulsory education by social group, gender, and region; reform of the examination system; problems of learning, particularly for children living in disadvantaged areas; the further development of and increase in student participation in technical and technological education; more effective ways of teaching second and third languages; and the financing of expected increased enrolments in the system over the next ten years. The problem of increased enrolment will be particularly acute at third level, where per-student costs are greatest

and where an increase in enrolment of 34 percent is projected during the 1980s.

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Israel

A. F. Kleinberger

The State of Israel achieved independence with the termination of the British Mandate over Palestine on May 15, 1948, pursuant to the United Nations resolution of November 29, 1947, concerning the partition of Palestine. Its borders were determined by the outcome of Israel's War of Independence against the Arab armies which invaded Palestine on May 15, 1948. Its area within these borders is 20,600 square kilometers (7,953 square miles). (This article does not deal with the former Syrian, Jordanian, and Egyptian territories which came under Israeli occupation during the Six Day War of June 1967, and whose educational systems are administered by the military government according to the regulations that were in force prior to the occupation.) The length of Israel from north to south is 420 kilometers. Its widest east-west extension is 113 kilometers and its narrowest (north of Tel Aviv) is but 16 kilometers.

More than 60 percent of Israel's area is occupied by the sparsely populated Negev desert in the south. Another relatively sparsely populated region is the Northern District, comprising the mountainous Galilee. The main concentration of Israel's total—and especially Jewish—population, as well as of her economic and cultural life, is in the narrow coastal plain along the Mediterranean (Haifa, Central, and Tel Aviv Districts) and in the Jerusalem District (see Table 1). Despite their relatively small distances from the center and the concentrated efforts of development, the "outlying" southern and northern districts have remained comparatively disadvantaged in socioeconomic and educational respects.

On the eve of partition in May, 1948, there were in Palestine about 650,000 Jews in a total population estimated at approximately 2 million. In the course of the Arab exodus from the territory assigned to the Jewish state during the hostilities in 1948, mainly the wealthy and educated urban Arabs left the country, believing that they would soon return in the wake of

the victorious Arab armies. Thus, the Arab minority which remained in Israel consisted almost exclusively of the educationally, culturally, and economically backward strata, deprived of its political and religious leaders and its social and intellectual elites. This fact accounts, at least in part, for the inferiority of the Arab in comparison with the Jewish system of education in Israel (Kleinberger 1969 pp. 16, 307–22).

One of the most conspicuous characteristics of Israel is the rapid increase in population, as shown in Table 2. Whereas the growth of the Arab minority (except for the incorporation of the Arab inhabitants of formerly Jordanian East Jerusalem in June, 1967) has been the result of natural increase, net immigration accounts for 60 percent of the growth of the Jewish population in the period 1948–71 (but only for 29.5 percent in the period 1972–80). As a result of its high birth rate, between 45 and 50 percent of the Arab population of Israel in the period 1955–80 was under the age of 15, while the corresponding percentage of the Jewish majority, after a peak of 35 percent in 1960, declined to around 30 percent throughout the 1970s. This fact, too, has contributed to the difficulties in providing adequate educational facilities for the Arab minority.

Mass immigration, particularly during the early years of independence, has led to a significant increase in the Oriental component (stemming from the Islamic countries in the Middle East and North Africa) of Israel's Jewish population. While in 1948 Jews born in Islamic countries made up less than 10 percent of the Jewish population (as against 55 percent of European and American origin and 35 percent born in Palestine), eight years later their proportion had increased to 29 percent. By the end of 1980, some 45 percent of the Jewish population was Oriental (19.5 percent born in Islamic countries and an additional 25.4 percent Israeli-born of Oriental parentage) (*Statistical Abstract of Israel* No. 17 1966 pp. 44–45, No. 32 1981 p. 56).

The composition of the Arab population of Israel at

Table 1

Population density per square kilometer and population distribution 1948, 1980^a

District	Density/sq. km.		Distribution (%)					
	1948	1980	Total population		Jews		Non-Jews	
			1948	1980	1948	1980	1948	1980
Jerusalem	159.5	714.8	10.2	11.4	12.0	10.0	1.8	18.5 ^b
Northern	44.2	184.4	16.8	15.6	7.6	9.7	58.1	46.3
Haifa	209.2	663.2	20.5	14.4	21.1	14.1	17.6	16.0
Central	100.4	636.2	14.3	20.1	15.2	22.2	10.3	9.7
Tel Aviv	1,834.0	5,911.9	35.7	25.6	43.2	30.3	2.3	1.6
Southern	1.5	33.7	2.5	12.1	0.9	13.0	9.9	7.8

a Source: *Statistical Abstract of Israel* No. 32 1981 pp. 32–33, 35 b Including after 1967 the population of East Jerusalem

Table 2
Population of Israel 1948–80^a

Year	Total (in 1,000s)	Jews (in 1,000s)	Non-Jews (in 1,000s)	% of Non-Jews in total
1948	872.7	716.7	156.0	17.9
1951	1,577.8	1,404.4	173.4	11.0
1961	2,234.2	1,981.7	252.5	11.3
1971	3,120.7	2,662.0	458.7 ^b	14.7
1980	3,921.7	3,282.7	639.0	16.3

^a Source: *Statistical Abstract of Israel* No. 32 1981 pp. 30, 56 ^b As from 1967, the Arab population includes the inhabitants of East Jerusalem (formerly Jordanian)

the end of 1980 was as follows: 78 percent Moslems, 14 percent Christians, and 8 percent Druzes (*Statistical Abstract of Israel* No. 32 1981 p. 56).

Most of the Oriental Jewish immigrants display, to a greater or lesser degree, the distinctive characteristics of a traditional society and mentality, influenced by the social and cultural patterns, the preindustrial economy, and the autocratic political regimes of their Moslem countries of origin. Therefore, Oriental Jews and their Israel-born children are educationally and socially disadvantaged in comparison with those of European or American extraction. The same sociocultural characteristics and disadvantages apply to an even higher degree to the Arab minority (especially the Moslems and Druzes). This is evident from a comparison of literacy rates of the various ethnic and religious groups in 1961 (see Table 3).

The Jewish population is preponderantly urban. Until 1967, the Arab minority was preponderantly rural. The incorporation in 1967 of the large Arab population of East Jerusalem in Israel accelerated the process of urbanization which had been in evidence before, and by the end of 1980 only 32 percent of the non-Jewish population was still living in rural localities, including Bedouin tribes in various stages of sedentarization (Kleinberger 1969 p. 41, *Statistical Abstract of Israel*

No. 32 1981 pp. 38–39.) But the rural–urban divide is in Israel of small significance as regards the quality of educational provision and achievement. Part of the Jewish villages, in particular collective settlements (*kibbutzim*) and veteran cooperative villages (*moshavim*), are among the educationally most lavishly provided communities. By contrast, many of the new “development towns” in the southern and northern parts of the country, in which, in pursuance of the policy of “population dispersal,” new immigrants, especially from Islamic countries, were settled, were (or often still are) deficient in educational inputs and outcomes.

Israel's economic development was handicapped by serious objective difficulties: scarcity of water and natural resources, heavy outlays on defence and absorption of mass immigration, the economic boycott by the Arab states, and the influx of many undereducated immigrants lacking the vocational skills required by a modern economy. It has labored under a rising annual rate of inflation, which in 1980 reached 133 percent, and under a growing foreign-trade deficit, which in 1979 amounted to over US\$3 billion, although relatively exports are covering a steadily increasing proportion of imports (11 percent in 1949 to 67 percent in 1980). The negative balance of trade has been redressed by foreign aid, loans, and investments. Yet, despite these handicaps, during the years 1951–72 the gross national product (GNP), at constant prices, rose by an annual average of 10 percent. From 1973 onwards this annual rate of economic growth decreased considerably to between 1.3 percent (1976, 1977) and 4.7 percent (1978) (*Statistical Abstract of Israel* No. 32 1981 pp. 163, 204–5, 250). While rapid economic growth before 1973 sustained the expansion and improvement of educational services, these have been adversely affected by its slowdown in recent years.

Economic development has transformed the structure of the economy. Between 1955 and 1980, the proportion of all employed persons engaged in agriculture and fishing declined from 17.6 to 6.4 percent, that engaged in secondary production from 33.2 to 31 percent, while the proportion employed in the tertiary sector rose from 49.2 to 62.6 percent. Simultaneously, a shift has occurred in the labor force from manual labor and other

Table 3
Literacy rates per 100 adults aged 14 and over 1961^a

Population group	Both sexes	Males	Females
Jews born in Europe and America	97	98	96
Jews born in Asia and Africa	69	82	56
Non-Jews	48	68	29
Christians	76	87	66
Druzes	50	73	27
Moslems (including Bedouins)	38	61	14

^a Source: Israel Central Bureau of Statistics 1963 pp. xxxix, xl, 51

low-status occupations to occupations which require higher levels of education and enjoy higher social prestige. Between 1955 and 1980, the proportion of all employed persons occupied as laborers in agriculture, industry, mining, construction, and transportation dropped from 52.1 to 36.4 percent and that of sales personnel and service workers from 21.7 to 18.6 percent; on the other hand, the proportion in scientific, professional, and technical occupations rose from 10.4 to 22.6 percent and that in administrative, managerial, and clerical occupations from 15.8 to 22.4 percent (*Statistical Abstract of Israel* No. 17 1966 pp. 302-3, 312-13, Israel 1981 pp. 334-35, 342-43).

Politically, Israel is a parliamentary democracy with strictly proportional elections and, in consequence, a multiparty system. Governments can be formed only by coalitions, in which the Jewish religious parties (which receive between about 12 to 15 percent of the votes) have always been indispensable partners. This has given them leverage to secure their particular educational aims. Under the education laws, Jewish parents have an option between (secular) "state education," (orthodox) "religious state education," and (ultraorthodox) "independent education," which are all fully government financed. The latter two educate in the spirit and way of life of traditional Judaism and emphasize the study of the Jewish sacred texts rather than modern, scientific, and practical subjects. At the primary level, the proportion of Jewish pupils at religious state schools fluctuated during the 1950s and 1960s between 25 and 29 percent and declined to 19 percent in 1980-81, while the proportion at ultraorthodox independent schools was between 6 and 7 percent. At the secondary level, the proportions at both were slightly weaker (Kleinberger 1969 pp. 118-36, 168-71, Kleinberger 1979, *Statistical Abstract of Israel* No. 32 1981 pp. 555-57, 623).

The Arab and Druze minority enjoys full rights of citizenship and formal equality (except for the exemption of Arabs from military service). Both Hebrew and Arabic are official languages. All educational laws and regulations apply equally to Jewish and non-Jewish children, teachers, and institutions, with suitable adjustments to the needs of the minority communities. In recognition of the national identity of the non-Jewish population, the state maintains for it a separate system of education at all levels (with the exception of higher education which is not provided by the government), with Arabic as the medium of instruction, and a curriculum that includes the Arab cultural heritage. Yet formal equality does not imply the absence of disparities in real educational opportunity. For reasons already mentioned as well as others (e.g., the weakness of local government in the minority sector and its parsimony in expenditure on education), the Arab system of education compares unfavorably with the Jewish one in physical facilities, curricular diversity, staffing, attendance, and achievement. But special measures taken by the Ministry of Education, together with the progressive

economic and social modernization of the Arab population, have led to gradual improvements in all these respects. The most pressing problem yet to be solved is that Arab education in Israel lacks clear and consistent aims (Bashi et al. 1981, Kleinberger 1969 pp. 307-22, Mar'i 1978).

The chief goals of educational policy for the Jewish majority are more definite: bridging the educational gap between advantaged and disadvantaged regions and groups and breaking the close correlation between ethnic origin and socioeconomic inequality; promoting the social integration between children from different ethnic groups and socioeconomic classes; raising the general level of educational achievement and strengthening the productive sectors of the economy by training the requisite scientifically and technologically qualified personnel; and intensifying Jewish-Zionist consciousness and attachment to the Jewish heritage, especially in the secular schools.

1. Structure and Size of the Education Effort

A law enacted in 1949 made one year's attendance at a public kindergarten at the age of 5 and 8 years of primary school compulsory and free of charge. Preschool education is considered an essential prerequisite for the successful schooling of the children of new immigrants and disadvantaged families. In the Jewish sector, a steadily increasing proportion of children is voluntarily attending public or private kindergartens even at 3 or 4 years of age. The policy intention of the Ministry of Education and Culture is to make this almost universal, and great financial efforts are being made to provide free preschool education for 3- and 4-year-olds from culturally and economically deprived homes in distressed areas (so-called "development areas") and city quarters. In 1981, preschool attendance rates of Jewish children were 88.6 percent (58.9 percent in public and 29.7 percent in private kindergartens) at the age of three and 96.5 percent (almost 92 percent in public kindergartens) at the age of four (see Table 4). No corresponding efforts have been made for the Arab sector which still has very few preschool facilities for 3- and 4-year-olds.

The implementation of compulsory education for the Jewish population has been nearly total since its enactment. In the Arab sector, however, this was accomplished only in the mid-1970s after the gradual reduction of the high dropout rates of older Moslem and Druze children, especially girls.

Until 1968, the compulsory eight-grade primary school was followed by secondary schools offering academic, vocational-technical, or agricultural programs of two- to four-years' duration. An amendment to the Compulsory Education Law (1969) provided for gradual extension of free compulsory schooling to the ages of 14 and later 15 (ninth and tenth year of school). Whereas the first stage of the extension has been almost fully implemented, completion of the second stage has been

Table 4
Attendance rates 1952–81^a

Age	Population group	1952	1957	1962	1967 (%)	1970	1977	1981
3	Jews	n.a.	n.a.	22.7 ^b	32.7 ^{bc}	38.0 ^b	82.5 ^d	88.6
4	Jews	n.a.	n.a.	47.4 ^b	58.5 ^{bc}	67.2 ^b	95.0 ^d	96.5
5	Jews	n.a.	91.0	92.3	93.2 ^c	96.4	95.4 ^f	Over 96
3–5	Arabs	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6–13	Jews	95.0	96.0	97.7	98.0	98.4	96.9	98.7 ^g
6–13	Arabs	n.a.	67.1	80.4	84.4	87.1	92.5	94.4 ^g
14–17	Jews	42.8	57.6	60.5	62.0	66.8	74.8	79.5 ^g
14	Jews	n.a.	81.2	82.3	85.0	91.0	94.0	94.6 ^g
15	Jews	n.a.	65.9	64.1	68.4	74.2	83.0	85.6 ^g
16	Jews	n.a.	51.3	50.0	54.1	60.3	68.1	74.3 ^g
17	Jews	n.a.	32.5	36.0	37.7	43.8	55.3	62.5 ^g
14–17	Jews of Oriental origin	n.a.	n.a.	n.a.	51.2	54.9	67.9	74.4 ^g
14–17	Jews of Western origin	n.a.	n.a.	n.a.	73.4	81.5	81.6	82.3 ^g
14–17	Arabs	n.a.	n.a.	17.3	22.8	29.4	44.9	51.3 ^g
14–17	Moslems (inc. Bedouins)	n.a.	n.a.	n.a.	n.a.	23.4	41.5	47.2 ^g
14–17	Christians ^h	n.a.	n.a.	n.a.	n.a.	55.0	70.3	75.3 ^g
14–17	Druzes	n.a.	n.a.	n.a.	n.a.	20.9	32.4	52.0 ^g
20–29	Jews	n.a.	n.a.	n.a.	3.8 ^c	6.3	7.2 ^d	6.8 ⁱ

a Source: *Statistical Abstract of Israel* 1957–58, 1961, 1970, 1975, 1976, 1977, 1981 and other publications of the Central Bureau of Statistics (Corresponding data are not strictly comparable over time because of changes in the definition of categories and the mode of data collection) b Underestimates from incomplete data c 1968 d 1975 e 1965 f 1973 g 1980 h Excluding private schools, attended mainly by Christians i Average 1978–79

slowed down because of financial difficulties. In conjunction with raising the minimum leaving age, the traditional school structure (8 + 4) has begun to be replaced by a reformed one (6 + 3 + 3), in which all pupils, after completing a six-year primary school, transfer to a three-year comprehensive junior-secondary school (termed intermediate division), after which they have the option of attending one of the three types of senior-secondary school (grades 10–12) or of entering an occupation. Because of financial constraints, this structural reform, too, has been only partially effected, so that both school structures still exist concurrently (see Fig. 1).

Above the senior-secondary school there are various types of nonacademic postsecondary institution training teachers, technicians, and other semiprofessionals. At the crown of the educational system there are seven degree-granting institutions of higher learning—five universities, one institute of technology, and one institute of science—which usually offer three-year bachelor's degree programs, followed by two-year master's degree programs and doctoral studies. Admission to higher education as well as to some nonacademic postsecondary programs is as a rule conditional on having passed the centrally administered maturity examinations, which are usually taken by pupils in academic as well as in advanced courses of vocational- and agricultural-secondary schools; they are also open to

“external examinees” prepared by independent study or by unrecognized private schools. By 1980, the steadily growing proportion of 17-year-olds who obtain the certificate of maturity had reached about 24 percent in the

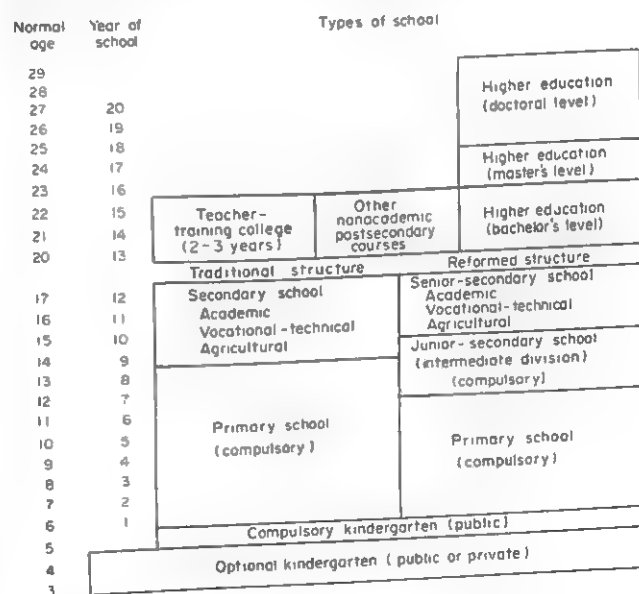


Figure 1
Structure of the educational system

Table 5
Enrollments 1949–81^a (1000s)

Level and population group		1949	1955	1960	1965	1970	1975	1981
Kindergarten:	Jews	25.4	63.2	75.7	82.9	107.7	136.1	252.0
	Arabs	1.1	3.8	7.3	10.2	14.2	16.1	17.5
Primary school:	Jews	91.1	250.6	375.0	413.4	394.4	389.7	447.1
	Arabs	10.0	28.1	36.9	54.1	85.4	105.7	127.6
Intermediate school:								
	Jews	—	—	—	—	7.9	50.9	76.8
	Arabs	—	—	—	—	2.5	9.3	15.2
Secondary school:								
	Jews	10.2	32.8	55.1	97.8	129.4	134.8	149.1
Of which:								
Academic		8.2	21.4	39.9	63.1	72.2	64.2	70.8
Vocational and agricultural		2.0	11.4	15.2	34.7	57.2	70.5	78.3
	Arabs	—	0.8	1.9	3.1	8.1	15.2	22.2
Of which:								
Academic		—	0.8	1.9	2.8	6.2	12.9	18.3
Vocational and agricultural		—	—	—	0.3	1.9	2.3	3.9
Postsecondary institutions:								
	Jews	1.3	3.4	5.8	7.2	12.0	29.8	26.9
	Arabs	—	—	0.1	0.1	0.4	0.7	0.5
Higher education		1.6	6.2	11.3	18.4	36.2	52.1	59.0

^a Source: *Statistical Abstract of Israel* 1957–58, 1961, 1970, 1975, 1976, 1977, 1981 and other publications of the Central Bureau of Statistics (Corresponding data are not strictly comparable over time because of changes in the definition of categories and the mode of data collection)

Jewish population and somewhat less than 9 percent in the Arab minority (computed from *Statistical Abstract of Israel* No. 32 1981 pp. 53, 629).

Enrollments at all levels from kindergarten to university, both in the Jewish and the Arab sectors, multiplied within slightly more than three decades by between 5 and 39 times (see Table 5). This dramatic expansion, which confronted the educational system with enormous problems in supplying buildings, equipment, and qualified staff, resulted partly from increased numbers in the relevant age groups and, except for the expansion of Jewish primary education, partly from rising attendance rates (see Table 4).

Attendance rates are also disclosing severe inequalities between regions, sexes, national, religious, and ethnic groups. Females are educationally underprivileged, especially in the Arab population but also, in vocational-secondary as well as higher education, in the Jewish sector. Among the minority, Moslems and Druzes are disadvantaged in comparison with Christians, while among the Jewish population persons of Oriental parentage suffer educational disabilities in comparison with those of Western extraction. No doubt, the disparity between the Jewish ethnic groups in the 14–17 age range has been reduced considerably over time due to special compensatory measures favoring the disadvantaged and to the general rise in prosperity. But the apparent equalization has in the main been the

effect of a deliberate policy of expanding vocational-secondary schools as a solution for underachieving Oriental pupils, while in academic secondary education, their attendance rates are still only half those of their Western counterparts (21 as against 42 percent in 1980). Most glaring are the disparities between the Jewish and Arab populations, particularly in preschool and higher education. (In the latter, Arabs made up only 3.3 percent of the total student population in 1979, Jews of Oriental parentage 18.4 percent, Jews of Western parentage 65.8 percent, and second-generation Israeli Jews 11.3 percent). But these inequalities, too, are gradually diminishing; over the past two decades, disparity between Jewish and Arab attendance rates in the 14–17 age range was reduced from 43 to 28 percent, while the Arabs' share in higher education rose from 1.3 in 1965 to 3.3 percent in 1979 (*Statistical Abstract of Israel* No. 32 1981 p. 637).

In addition to the formal school system, government agencies, voluntary organizations, and universities have developed a broad array of nonformal educational programs designed to serve the needs of particular target populations. The main efforts aim at familiarizing new immigrants with the Hebrew language and Israel's culture, history, and institutions; promoting literacy and basic education among adults lacking formal schooling; providing out-of-school education, cultural enrichment, and social activities for school dropouts; training adults

in vocational skills; and preparing promising, but insufficiently educated, young adults for admittance to higher education ("preacademic preparatory courses").

In the period from 1951 to 1981, between 13,000 and 17,400 new immigrants annually attended public Hebrew courses. The number of participants in vocational-training courses for adults, sponsored by the Ministry of Labor, rose from about 8,000 in 1950 to 31,300 in 1980. In 1981, some 12,000 undereducated adults (mainly women) received instruction in reading and basic knowledge at over 60 centers throughout the country. In the same year, nearly 3,000 young adults were enrolled in preacademic preparatory courses, operated by the universities, and their further expansion is being envisaged. A recently started open university enrolled in 1981 approximately 12,000 students (Cohen 1981 pp. 12-13, 24, 31-32, *Statistical Abstract of Israel* No. 32 1981 pp. 643, 646).

2. Finance

The evolution of financial efforts on behalf of education is difficult to describe briefly because of the intricate interrelations between the different partners involved. For instance, while local authorities are responsible for the maintenance of compulsory kindergarten and primary-school premises, the funds they spend for this purpose derive in part from the government budget.

An approximate idea of the relative magnitude of the state budget devoted to education may be gained from the ordinary budget of the Ministry of Education and Culture. But it must be noted that, while part of this budget covers noneducational items like the arts,

antiquities, sports, etc., the expenses of some kinds of educational services and institutions are defrayed out of the ordinary budgets of other ministries. The portion of the total ordinary government expenditure allocated to the Ministry of Education and Culture rose between the fiscal years 1949-50 and 1966-67 from about 4 to 15 percent. In the war year 1967 it dropped to 10 percent and thereafter fluctuated, until 1976-77, around an average of 7.4 percent. From 1977-78 to 1980-81 it increased from 8.5 to 10 percent. In relation to GNP it rose from 1 percent in 1950-51 to 7 percent in 1979-80 and 1980-81 (computed from *Statistical Abstract of Israel* 1954-81).

More illuminating is the "national expenditure on education," which has been computed since 1962-63 and comprises the financial contributions made to the total cost of education at all levels by four sectors: all the central government departments concerned, local authorities, private nonprofit institutions (like institutions of higher education, independent secondary schools, etc.), and "others" (business enterprises and households). The total national expenditure on education as a percentage of GNP increased between 1962-63 and 1979-80 from 6 to 10.7 percent. But as the growth of GNP has slowed down considerably since 1973, a percentage rise in recent years does not imply rapid growth. Indeed, while current national expenditure on education at constant prices (adjusted for inflation) grew slowly from 1973-74 to 1979-80 by annual increments of 2 to 5 percent, capital investments (at constant prices) in buildings and equipment for educational services were cut back during this period by between 2 and 17 percent annually. The share of the

Table 6
Distribution of national expenditure on education among levels and types of education (percentages), 1962/63-1978/79^a

	1962/63 All sectors	1972/73 All sectors	All sectors	1978/79 Central government
Current expenditure:	100	100	100	100
Government administration	5	3	4	4
Preschools	6	7	9	6
Primary schools	38	30	30	35
Secondary schools ^b	25	28	25	31
Postsecondary and higher education	13	25	23	24
Other services	13	7	9	not included
Capital investments:	100 ^c	100	100	100
Preschools	4	10	13	n.a.
Primary schools	44	19	31	n.a.
Secondary schools ^b	25	28	26	n.a.
Postsecondary and higher education	27	43	30	n.a.
Share in capital investments	100	100	100	
Central government	n.a.	n.a.	29	
Local authorities	n.a.	n.a.	44	
Nonprofit institutions	n.a.	n.a.	27	

a Sources: Israel, Central Bureau of Statistics 1979 p. 48, *Statistical Abstract of Israel* No. 32 1981 pp. 612-13 b Including, as from 1969-70, "intermediate divisions" c 1963-64

central government in financing the total national expenditure on education (both current and capital) rose from 55 percent in 1966–67 to 72 percent in 1975–76 and thereafter fluctuated around an average 70 percent. The share of local authorities fluctuated between 16 and 11 percent from 1966–67, to 1978–79 while the balance contributed mainly out of the resources of nonprofit institutions declined (with some temporary rises) from 29 percent in 1966–67 to 14 percent in 1975–76 and increased slightly in the following three years. The percentage distribution of the national expenditure on education between levels and types of education is presented in Table 6 (Israel, Central Bureau of Statistics 1979, *Statistical Abstract of Israel* No. 32 1981 pp. 164, 611–13).

3. Supply of Personnel

Kindergarten and primary-school teachers are at present trained in two- or three-year courses at teacher-training colleges after the completion of an academic secondary education. In 1981, there were 47 such colleges in the Jewish and two in the Arab sector. A few of them have introduced (or are planning to introduce) four-year courses, authorized to confer a Bachelor of Education degree, especially for teachers in the intermediate divisions. However, during the 1950s and 1960s, when there was an acute teacher shortage, some training courses accepted candidates after the 11th grade of secondary school. Secondary-school teachers are required to hold at least a bachelor's degree and a teaching diploma acquired at an institution of higher education. Administrative and supervisory personnel were in the past recruited from the ranks of experienced teachers, without any additional training. But since the 1960s, universities have offered programs ranging from undergraduate to doctoral in educational administration as well as inservice training for school principals.

The rapid expansion of the educational system made it necessary to employ teachers who were lacking the required minimum qualifications. In Jewish primary education in 1952–53, some 44 percent of all teaching personnel were not fully qualified. Inservice courses, qualifying examinations, and expansion of preservice training facilities gradually reduced this proportion to about 15 percent in 1969–70, and since then it has remained relatively stable (17 per cent in 1979/80). The situation has always been much worse in the southern and northern districts, where even in 1979–80 some 25 percent of primary-school teachers were unqualified. For several years, the Ministry of Education has made great efforts, by means of special incentives, to attract qualified and experienced teachers to these disadvantaged regions. In Jewish secondary schools, in 1965–66 only 42 percent of the teachers had an academic degree, and no more than 23 percent a teaching diploma as well. These proportions rose to 56 and 34 percent, respectively, in 1974–75 and are still on the increase.

They are always higher in academic- and lower in vocational-secondary schools.

In the Arab sector, for reasons already mentioned, the situation is even less satisfactory. In 1948–49, some 90 percent of primary-school teachers were unqualified. By 1974–75, the proportion had been reduced to 52 percent, and, according to the director of minority education in the Ministry of Education, in 1980–81 it was about 15 percent. In Arab secondary schools, the percentage of degree-holders was 34 percent in 1965–66 and 42 percent in 1974–75 (Kleinberger 1969 pp. 60, 165, 239, 314).

4. Educational Research

Lively educational research activity is carried out by academic staff and doctoral students in the schools of education and departments of social sciences of universities and by university-affiliated or independent research institutes. The most important of the latter is the Szold Institute for Research in the Behavioral Sciences, which through its Information Retrieval Center also collects and disseminates information about ongoing and completed investigations. Imposing arrays of quantitative data relevant to education are being collected and analyzed by the Central Bureau of Statistics and those sections of government ministries that are concerned with education and vocational training. Several Israeli journals exist for publishing the results of this activity. The Israel Education Research Association, founded in 1976, brings together producers and consumers of investigations in its annual congresses. Funding of inquiries comes from universities' and institutes' own resources, grants by foreign foundations and agencies, and government departments which commission specific studies.

Part of the research effort is devoted to educational and related topics of general interest, from cognitive and moral development to organizational sociology of the school and from analysis of educational concepts to the history of educational ideas. But an increasing portion of the scientific endeavor has been directed toward Israel's pressing educational problems: the extent and causes of and potential remedies for the disparities in educational opportunity and achievement between children of different national and geocultural origins or from different socioeconomic strata; the effectiveness of various compensatory measures designed to reduce these intergroup gaps; the problems and effects of interethnic school integration within the Jewish population; the identities and mutual attitudes of Arab and Jewish youths; the success of the structural reform of the educational system (introduction of the intermediate division); problems of the training, recruitment, and turnover of the teaching corps; evaluation of new curricula; and so on. In recent years, several large-scale research projects were completed: two cross-sectional evaluation studies of Jewish and Arab primary schools (Minkovich et al. 1977, Bashi et al. 1981) and three

longitudinal studies of the change or stability in the interethnic achievement gap from the fourth to sixth primary grades (Lewy and Chen 1977), the intellectual, social, and attitudinal effects of the intermediate division (Chen et al. 1977), and compensatory education (Smilansky 1979). See also Green and Cohen (1979) and Goldstein (1980).

Current and projected major research endeavors are concerned with a survey of comprehensive schools in development towns, the effects of formal education upon socioeconomic attainments, drop out from secondary education, the effectiveness of incentives to attract teachers to disadvantaged regions, and the different perceptions of curricula by developers, teachers, and pupils.

5. Major Problems

Some of the major problems faced by Israel's educational system have been discussed above. Four of these are of utmost urgency, as they are socially and politically explosive: closing the educational gaps between Arabs and Jews and between Jews of Oriental and Western parentage; strengthening the Jewish identity and consciousness of young secular Jews, which seems to be of primary importance in view of the excess of emigration over immigration in recent years; and defining clear and consistent aims for the education of the Israeli Arabs, including a feasible conception of a common Israeli identity. None of these problems has been solved, and none of them can be solved by educational efforts alone.

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Italy

A. Visalberghi

Italy was the first country of ancient Europe to achieve political, cultural, and linguistic unity. This was achieved through the expansion of the Roman Republic (third to first centuries BC), whose Latin language became the universal language of the peninsula even if there were slight local differentiations based on previous ethnolinguistic variations. After some centuries, both political and linguistic unity disintegrated. Neo-Latin dialects (considered in some cases genuinely different languages) developed, and only after a long cultural process lasting several centuries and culminating in the Renaissance period was a new standard Italian established. This was achieved despite the political fragmentation brought about by the strong influence of or even subjection by foreign countries like France, Spain, and Austria. A new political unity and independence was gained only in the middle of the nineteenth century

and completed after the First World War. The most crucial problems of the new state were, therefore: (a) consolidating the new, precarious unity (and to achieve this the choice has been a highly centralized administration, including that of education); (b) reducing underdevelopment, compared with most other European countries, in the economic and educational fields; and (c) reducing the large economic and educational gaps between the northern and southern regions of Italy itself.

In the middle of the nineteenth century, Italy was among the few highly illiterate nations of Europe. Figure 1 shows the relationship between the increase of elementary-school enrolments, progressively achieved, and the decrease of the illiteracy rate from the beginning of Italian unity and independence.

Figure 2 shows the radical transformation of the

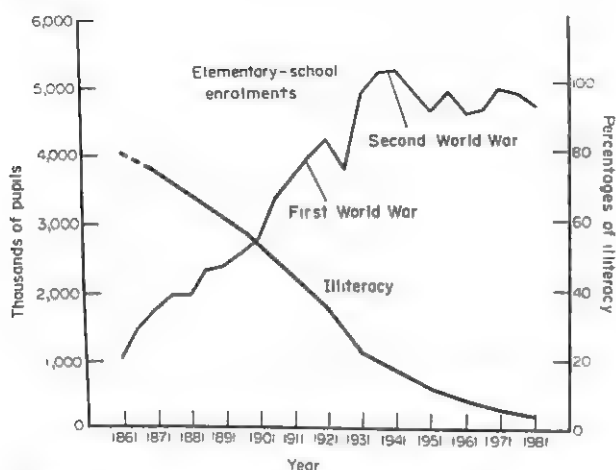


Figure 1
Elementary-school enrolment and illiteracy rates 1861–1981

Italian economy from 1871 to 1981. In about a century, Italy changed from an agricultural to an industrial country, with even some postindustrial features (services plus public administration largely exceed industry). The gross national product (GNP) multiplied by a factor of about 12, and per capita GNP income by a factor of about 5 (from about US\$815 to about US\$3,850 in 1981).

Italy became a highly industrialized country (the seventh in the world) as a result of the high rate of economic growth in the 1950s and, chiefly, 1960s, when considerable migration from agriculture to industry and from southern to northern Italy took place, alongside both permanent and temporary emigration to other European countries. Thus, the high birth rate (chiefly in the south) was partly compensated. The birth rate has been steadily declining, and by the early 1980s the country, which had doubled its resident population from 1871 to 1980 (from 28 to 56 million), had almost reached a zero population growth rate.

1. Educational Background

The educational system in Italy also changed greatly after 1860, both in quantitative and in structural terms,

although it has retained some of the characteristic features existing from its foundation. Many of its present problems spring chiefly from the contrast between already implemented changes and old structures and habits of mind which resist further, greatly needed reforms to make the system capable of coping with the tremendous growth in enrolment rates, particularly after 1960 (see Fig. 3).

The Italian school system was nationally established in 1859–61. Of course, schools—both popular schools and institutions for the ruling class—were already operating in the various states. Generally, schools were religious, but sometimes they were run by the municipalities. In a short period of time, Piedmont extended the educational legislation it had recently developed to other regions, in the form in which it had been restated and improved by the *Legge Casati* (1859), issued when Lombardy was conquered. This law was clearly a centralist one. Even though some educational tasks were assigned to the municipalities, all basic powers, including the formulation of syllabi for all types of school, were concentrated in the hands of the minister of education and exercised through central inspectors and provincial *provveditori* (superintendents). The most open-minded scholars, even one who became a minister of education—the famous literary critic Francesco De Sanctis, voiced bitter criticism of such a “Napoleonic” system.

This system has lasted without any major change until recently and was even strengthened during the Fascist era (1922–43). Italian rulers were afraid of such potentially disruptive forces as regional autonomy and the power of the church. Italy’s unification had been enacted by a Catholic monarchy which had nevertheless incorporated most church possessions, suppressed special church jurisdictions, and even seized the capital of Catholicism, Rome (1870). Conservative Catholic reactions were feared, as was the struggle for more democracy led by the left (chiefly Garibaldi’s followers, later anarchists and socialists). As a result Italian governments have always been moderate and center-oriented. Even when the Left won the 1878 elections, the term *transformismo* was created as a label for the compromises which made the opposition victory devoid of almost any real meaning (although compulsory education was better implemented and religion abolished

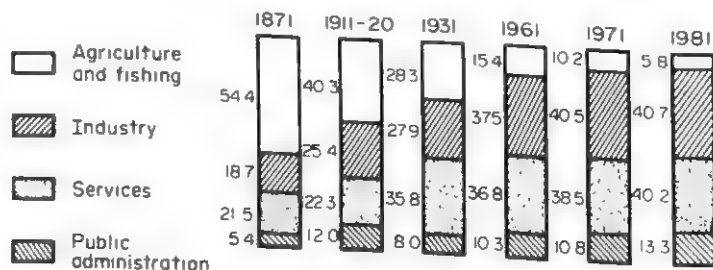


Figure 2
GNP by occupational sector (%), selected years

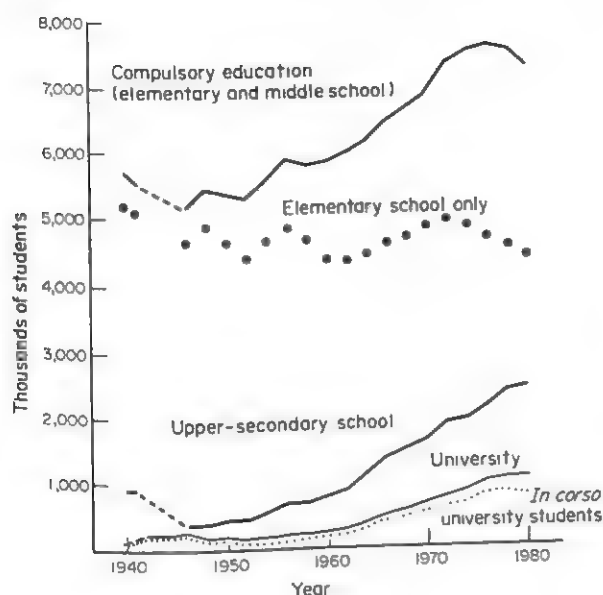


Figure 3
Enrolment in compulsory, upper-secondary, and higher education 1940–80

as a compulsory subject in public schools). Fascism was, in a way, an “accident” in the course of such a transformistic policy: the moderates hoped to exploit fascism against the socialists, but Mussolini did not accept minor participation in the government and succeeded in obtaining full power and in making government dictatorial. At first, several Catholics and liberals, such as the philosopher Benedetto Croce, supported his government, and another leading thinker, Giovanni Gentile, accepted the post of minister of education, just after the March on Rome (October, 1922).

Gentile introduced the single most important educational reform (*Riforma Gentile*, 1923) since the *Legge Casati*. It halted and eliminated several trends towards more democracy and flexibility which had taken place (for instance, the possibility of being admitted to scientific studies at university without having studied Latin). Latin became again the decisive entrance-ticket not only for academic studies and university, but even for the technical sector of upper-secondary schools. The educational system was centralized even further and even the rectors of the universities had to be appointed by the minister of education. The *Riforma Gentile*, however, also had some positive aspects: elementary schools were given a richer and more creative orientation and extended in duration from four to five years, and new syllabi stressed a historical-critical approach, chiefly in the classical lyceum and the new scientific lyceum. The fascist ministers of education who followed stressed centralism and rigidity, introduced political propaganda into schools on a massive scale, and emphasized the increased religious instruction that had been reintroduced by Gentile.

After the Second World War, there was no substantial change for a while. The centrist political tradition was taken over and emphasized by the Christian Democrats, the party which acquired a relative and sometimes absolute majority in parliament. It administered public schools through the *Provveditori* appointed in the 100 provinces by the minister of education and also favoured private schools, mostly Catholic. In spite of the innovative educational principles contained in the new democratic Constitution (1947), the first important structural change was discussed and approved by parliament only in 1962—a single middle school lasting three years to be provided after primary education as the final cycle of the eight years of compulsory education prescribed by the Constitution as a minimum.

The Italian Constitution is generally oriented to correct the old centralist tradition in that it gives powers to local communities (cities, provinces) and also to the 20 new regions (some with greater autonomy than others because of their ethnic, linguistic, or historical peculiarities). In education, a general principle exists institutionally, according to which “the Republic dictates general norms about education and establishes state schools for all orders and grades,” but the regions have both legislative and administrative competence in the matters of “artisan and vocational instruction and scholastic assistance.” But it was only in 1977 that a “law of principles” was approved about the practical ways of implementing such a division of responsibility. It established that the state take care of preprimary, compulsory education, upper-secondary, and higher education for the provision of general culture, and science, and technology. Vocational education, operated or supervised by the regions, was limited to short cycles (a maximum of two years), aimed at providing highly specialized knowledge and training and acting as an interface between state education and the labour market. Regional instructional systems have been developing at different speeds (faster in the northern regions).

As far as state schools were concerned, the prevailing centralized tradition was partially broken by a law in 1973 and by the ensuing “delegated decrees” issued by the government in 1974. New elective bodies enjoying popular participation and partial self-government were created at different levels—school level (and even class level), district level (a new dimension with total populations ranging from 50,000 to 200,000 and with councils endowed with formal rather than effective powers), provincial level, and national level.

At the regional level, special regional institutes for educational research, experimentation, and inservice training have been created and are connected with a national Library of Pedagogic Documentation in Florence and a European Center for Education in Frascati (Rome). To what extent this new network will develop and operate when up against the old centralized system is a debatable issue, to be settled only in the long term. Most decision-making power remains in the hands of the Ministry of Education, the *Provveditori*,

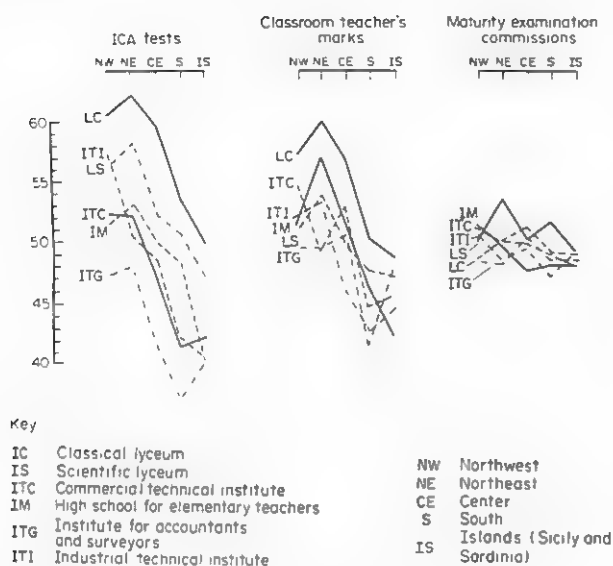


Figure 4
Global achievement at the end of high schools as assessed by IEA tests, classroom teachers marks and maturity examination commissions, according to school type and large geographic regions

and the school principals. The integration of the two structures does not appear to be an easy task.

A centralized management of education, although criticized, has been and is generally accepted in Italy as the least evil system because it is primarily related to a nonhomogeneous cultural situation chiefly between the north and south of the country. Centralized controls such as the "maturity examination" at the end of upper-secondary education, operated by external commissions, should, it is thought, have an equalizing effect. But this may not be true. In 1970, an extensive survey was carried out as part of the "Six Subject" study promoted by the International Association for the Evaluation of Educational Achievement (IEA). A good probability sample of the school population completing upper-secondary education in Italy was drawn, and a large battery of tests and questionnaires administered, in order to compare the objective assessments (the test scores) with school marks and with the results of maturity examinations in all types of school and in all main geographic regions.

Figure 4 presents the results of the comparisons. Achievement appears to be highly associated with type of school, but above all with geographic location (when test results and school marks are considered). On the other hand, the maturity examinations do not discriminate at all, at least in their present form (established experimentally in 1969, but unchanged since then, in spite of many criticisms and proposals for radical change).

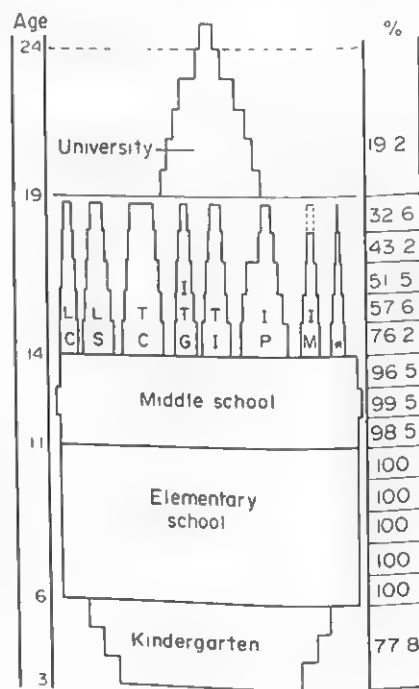
The international comparison placed Italy below all developed countries in achievement, in spite of the fact

that its upper-secondary schools have more years of education than nearly all other countries. The regular age of completion is 19 years.

A new survey in 1980 on a smaller sample confirmed the previous results and provided evidence that not even the new experimental schools were doing better, except in the north. In the south, their achievement was worse than in traditional schools. The cultural gap seems a hard problem to solve. If the centralized management of the school system has failed, it would seem that local initiative has not fared better. It appears that only general measures of positive discrimination in favour of certain regions, to encourage and support local efforts might be successful.

2. Structure and Size of the Educational Effort

The most striking feature of the Italian educational system is the contrast between the complete unity of its compulsory level (five years of elementary and three years of lower-secondary or middle school for all pupils)



Key

- LC: Classic lyceum (4.5% of age group)
- LS: Scientific lyceum (8.3% of age group)
- ITC: Commercial technical institute (11.7% of age group)
- ITG: Technical institute for surveyors (3.2% of age group)
- ITI: Industrial technical institutes (6.4% of age group)
- IP: Vocational institutes (9.5% of age group)
- IM: Schools for elementary and kindergarten teachers (5.3% of age group)
- *: Artistic lyceum and art institutes (1.4% of age group)

Figure 5
School enrolment by age group 1980

and the intricate jungle of upper-secondary schools. Figure 5, with some approximations (assuming, for instance, that all students are enrolled in the right grade at the right age), presents the distribution of the various age groups at different levels and types of schooling, but gives only a very limited impression of the complex situation. It does not show every type of upper-secondary schools but only their aggregates. In the case of industrial technical institutes, there are 31 autonomous tracks, and in the vocational institutes (*Istituti Professionali*, of various lengths), there are some 150 different types of rigid curriculum combined in different ways in the individual institutes of which there are more than 200 kinds, all giving access after five years to all types of university course.

It is, of course, a precarious and unstable situation chiefly determined by small pieces of provisional legislation taken within the perspective of a radical reform of the whole educational sector, including higher education. However, the situation has remained basically unchanged since 1969, and any radical transformation parliament may eventually work out will not be fully implemented before the 1990s. Nearly all reforms discussed again and again by parliament foresee a unitary high school of five years, with a common-core curriculum prevailing in the first years and diminishing later and increasing teaching of special subjects suitable for a reduced number of basic orientations both scientific and professional (12 or 13 to be established in each district, 2 for arts and music in each province). The final specialization, if necessary, has to be operated by the regions and/or by the universities as short-cycle degrees. The admission to every type of university course should be free to students, but only if it is consistent with the subjects studied and completed at high school.

Obviously, such a reform can only be implemented after special commissions have prepared standard curricula and syllabi, and even then it will take effect gradually, beginning with the first high-school grade. In the meantime, it is difficult to tolerate the present situation, probably unique in the world, which allows each high-school graduate to be admitted to any type of university study, involving thereby a considerable waste of time. There have been demands for selective-admission examinations at least to the most overcrowded university courses of study. An even greater demand, particularly from experts, has been made for a reform of the maturity examination, to ensure a reliable assessment of the scholastic final product and to help orient students towards further studies and/or careers. Reform of the maturity examination would also be useful for comparative evaluation of experimental schools and later of the new, reformed schools.

Why, then, after the unification of the lower-secondary school in 1962 (placing Italy in the forefront in Europe), has the next step been so slow and difficult? First of all, it must be recognized that the existing jungle of upper-secondary schools has grown as an unplanned and fragmented response to the demands of the econ-

omy and of society. Although the classic lyceum, even if reduced in size, retains the good reputation linked to its old elitist tradition, the technical and vocational institutes, which altogether enrol almost 58 percent of upper-secondary students, have developed in connection with the qualification demands of an expanding labour market, sometimes in a short-sighted way or with too narrow targets. The role of regions as operators of new types of vocational instruction is just starting, and many people are afraid of reforms which might destroy the existing system and replace it by a large generic lyceum unable to prepare the large majority of students for essential economic and productive tasks. For the technical and vocational institutes are often very well equipped with even the most advanced and sophisticated technology and the industrial technical institutes produce higher levels of achievement in the sciences than do the scientific lyceums, as the surveys of 1970 and 1980 strikingly proved. A too hasty reform might do more harm than good.

3. Teachers and Teacher Training

In the field of teacher preparation and training Italy has a contradictory situation. Kindergarten and elementary teachers have less schooling than in most countries (three years of *Scuola Magistrale* and four years of *Istituto Magistrale* respectively after middle school), whereas secondary teachers have more schooling than is usual elsewhere (four or five years of university, plus a qualifying examination and/or a public selection examination for full tenure), although they often have a serious lack of pedagogical and psychological training. However, the most curious circumstance is that the law of 1973 established that *all* teachers should have "a complete university education," but, while waiting for the reforms of both upper-secondary and higher education, nothing has changed for preschool and primary teachers. For secondary-school teachers, the recruitment procedures have changed several times, but not the qualifications, that is, what is required in terms of educational competence. The tendency now is to require specific training *after* appointment to a permanent teaching position on the basis of a public selection examination. Traditionally, selection was only concerned with the subject matter to be taught. Now, some attention is given to the pedagogical and methodological aspects of teaching.

At the beginning of the 1980s, recruitment was limited because school enrolment was stable or even diminishing in compulsory education. The pupil-teacher ratio was among the lowest in the world. Thus, emphasis was given to inservice teacher training or retraining, which sometimes even qualified them for new tasks (guidance, compensatory education, special education for handicapped pupils, adult education, etc.) as an alternative to classroom teaching.

Inservice training of teachers was traditionally organ-

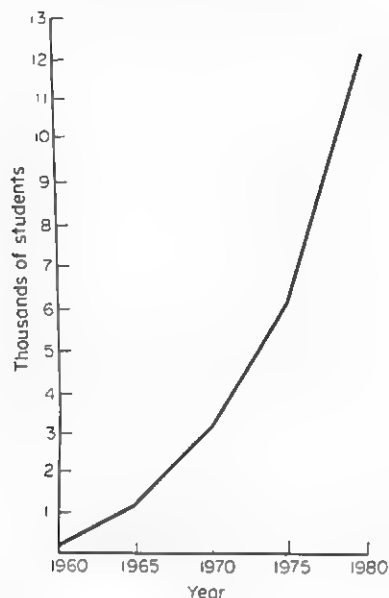


Figure 3
University enrollment 1960–80

if it is kept in mind that, after independence, the government had no other choice than to produce the qualified personnel needed for building the nation.

The enrollment level achieved in the Ivory Coast appears as particularly significant when one keeps in mind that the Ivorian population increases extremely rapidly. Indeed, from a figure of 6,673,000 in 1975 (according to the census of that year) the Ivorian population was estimated to be about 8,500,000 in 1981 with a figure of approximately 14,400,000 projected for the year 2,000. Such an exponential increase is accounted for by a high birth rate of 50/1,000 per year with a relatively moderate death rate of 19/1,000 per year, allowing an average annual increase rate of 4.07 percent for the period 1975 to 1980. It must also be added that 45 percent of the Ivorian population is aged 15 or under and only 2 percent over 64.

The remarkable enrollment level achieved has necessitated the creation of an important educational infrastructure. Thus, the number of primary schools has risen from 1,722 in 1960–61 to 4,419 in 1979–80, while for the same period, the number of secondary schools rose from 47 to approximately 190. In 1964, the country's only national university was created. Its six faculties (arts, sciences, medicine, pharmacy, law and economics) in addition to a wide range of specialized schools provide the framework for higher education.

The educational effort in the Ivory Coast is not confined exclusively to the formal sector. Considerable efforts have also been made to develop out-of-school programs intended actively to involve the illiterate sections of the adult population in the country's process of development. The most important among these non-formal programs are: *La Coupe Nationale du Progrès*

(CNP) and *Télé Pour Tous* (TPT). *La Coupe Nationale du Progrès* is a radio program launched in 1967 by the Ministry of Information. It consists of providing Ivorian peasants with agricultural information and advice every morning for approximately 15 to 20 minutes with the purpose of increasing their productivity. In addition to its daily broadcasts, *La Coupe Nationale du Progrès* organizes two nationwide competitions with the aim of rewarding the subprefectures and the individual peasants who have best applied its advice.

Télé Pour Tous began in 1973 under the supervision of the Ministry of Primary Education. It is broadcast on television once a week for approximately 30 minutes, and deals with a wide range of topics such as village cooperatives, agricultural practices, health care, etc. The programs, which are developed by a team of specialists from various ministries, are aimed at rural and urban adult viewers gathered in television classrooms under the supervision of teachers who translate and explain the French broadcast messages to the audiences, and encourage them to take decisions for future actions (Lenglet 1978).

4. Administration

Education (both formal and nonformal) in the Ivory Coast is a systematically government-controlled enterprise. No schooling (except rare Koranic education) takes place without the supervision of the local government whose educational activities are carried out by approximately 20 ministries directly or indirectly involved with education. This centralization of the Ivorian education system does not, however, prevent an internal dispersal of responsibility and a lack of coordination among the ministries which are in charge of the various aspects of education and training. It should be pointed out, however, that only 4 among the 20 ministries deal specifically with education as their main concern. One, the Ministry of National Education, is responsible for secondary schools and university as well as secondary-school teacher training. A second, the Ministry of Primary Schooling and Instructional Television, is, as suggested by its title, in charge of primary education and primary-school teacher training as well as the out-of-school program called *Télé Pour Tous*. A third, the Ministry of Technical Education and Professional Training, has under its jurisdiction the training of craftsmen, manual workers, and local technicians. Finally, the Ministry of Popular Education, Youth and Sports is responsible for physical education and a couple of out-of-school programs.

The educational structure in the Ivory Coast is illustrated in Fig. 4.

5. Finance

Education is the most costly public service in the Ivory Coast. From 1970 to 1981, public expenditure on education increased more than 10 times, from CFA 16,330

Average age	Year of school	Type of school	
26	20	University	Higher education
25	19	Institutes (doctoral level)	
24	18		
23	17	University Specialized schools	
22	16	General	
21	15	Technical	Secondary school
20	14	Teacher training (undergraduate level)	
19	13	Second cycle of secondary school	
18	12	General	
17	11	Teacher training Vocational	
16	10	First cycle of secondary school	Primary school
15	9	General	
14	8	Technical	
13	7	Vocational	
12	6		
11	5	Elementary school	Preschool
10	4		
9	3		
8	2		
7	1		
6		Kindergarten	
5			
4			

Figure 4
Structure of the educational system

million to CFA 171,938 million. These figures represent 3.9 percent and 7.2 percent respectively of the national domestic product or 26.8 percent and 45.7 percent of the state general functioning budget. Primary schools receive the largest share of the overall educational expenditure (37 percent in 1981), followed by higher technical and professional training (25 percent), secondary schools (19 percent), the national university (10 percent) and, finally, technical schools (9 percent).

The importance of the education budget can also be expressed in the cost per student. Indeed, from 1961 to 1979, the public primary school education cost per student rose from CFA 12,300 to an estimated CFA 56,600 while the corresponding figures for the public secondary sector were CFA 142,856 and CFA 267,700 respectively. In 1979, the average cost per student in technical schools was CFA 1,189,600 while the figure for the national university was approximately CFA 1,169,000.

The particularly high cost of education in the Ivory Coast is accounted for by a number of factors. Among these must be mentioned: the use of a sophisticated instructional technology such as television; the training of qualified teachers; the increase in salaries decided by the government in 1976 in order to attract national

teachers; and finally the high dropout rate characteristic of the country's schooling system. The government is not alone in its effort to meet the financial requirements of education and receives two main types of assistance.

The first comes from rural communities which are required to build classrooms, before the government will provide teaching staff for the schools. In addition there are also the tuition fees paid by parents whose children attend private schools.

The second type of assistance is provided by Western countries, such as France, the Federal Republic of Germany, Belgium, the United States, and international institutions such as UNESCO, the World Bank, and UNICEF. However, the amount of external aid has decreased considerably in recent years. Thus, the proportion of Ivory Coast educational budget paid for by external aid fell from 10.5 percent in 1975 to 8.3 percent in 1976 and 7.1 percent in 1977. This decrease is mainly accounted for firstly by the fact that France's participation towards the cost of technical assistance reached its ceiling in 1974, and secondly by the stabilization of the number of technical assistants in higher education, and the progressive reduction of external aid to the national university.

6. Curriculum Development

The curricula in Ivorian schools represent, perhaps, the clearest indicator of the outward orientation of the country's system of education. They still reflect to a large extent French school syllabi, and as such, remain seriously inappropriate to local needs and aspirations.

Perfectly aware of this serious problem, the government has created a number of agencies with the purpose of adapting the curricula to the requirements of the national development process. Thus, at the level of the primary school system, the General Direction of Studies and Programs (GDSP) is supposed to define curricula, suggest pedagogical methods through which the programs can be taught, and recommend the most suitable learning materials for use not only in primary schools but also in primary-school teacher-training centers. The counterpart of GDSP in the secondary school system is called the Sub-direction of Pedagogical Coordination. Curricula at this level, however, are specifically defined by a National Pedagogical Commission which periodically gathers pedagogical advisers and secondary school inspectors representing different subjects.

Despite the work of these agencies and of others not mentioned here, curricula in the Ivory Coast are still largely influenced by French values and norms, if not mere replicas of French ones. This is especially true for the programs of the local university, despite its recent nationalization. Far from being fortuitous, the French orientation of Ivorian school programs is accounted for, among other factors, both by the desire of the government to have Ivorian degrees accepted by French educational institutions, and by the fact that those who are in charge of adapting curricula to the country's

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Jamaica

A. S. Phillips

Jamaica is a small mountainous island, situated very nearly at the centre of the Caribbean basin. First discovered by Columbus on his second voyage to the New World, it was annexed to the crown of Spain and remained a Spanish possession for over 150 years. Its favourable location, fertile soil, and pleasant climate made it very attractive to the European powers in the period of colonization. Britain captured it in 1655 and retained it against serious challenges until 1962, when it became independent.

The 11,425 square kilometres (4,411 square miles) making up Jamaica is composed of a central mountain range of igneous rock surrounded by dissected limestone plateaux with numerous ridges and very deep valleys. The central core of high ground fills most of the island, leaving a coastal plain, very narrow and constricted in the north, but fairly wide in the south, and composed mainly of alluvial soil eroded from the mountains. This was ideal for the cultivation of sugar cane which proved an important factor in its development.

The advent of sugar saw the establishment of the plantation system. This determined the racial mix of the population as well as the social structure that evolved. The owners of the plantations, the European settlers, have remained at the top of the socioeconomic ladder. Labour for tending the sugar cane was brought in first from Africa, via the slave trade, and then from India, via indentured labour, to replace the native Arawak Indians who perished soon after the arrival of the Spaniards. These two groups came to occupy a position at the bottom of the social scale. Finally a third group evolved from intermixture which occupied a middle position, and became quite influential.

The century between the abolition of slavery (1838)

and the beginnings of the movement towards independence (1938) saw a weakening of the rigid class boundaries, a spread of the population and a diversification of the economy. Immediately after emancipation many of the freed slaves left the hated plantations and founded free villages in the "bad lands", that is, the hill land not suitable for sugar cane. Thus many deeply rural settlements in the valleys of the dissected plateaux and on the mountain ranges came into being.

In the century referred to other ethnic elements came, largely as traders. Thus arrived in Jamaica people of Chinese, Lebanese, and Syrian origins. The total population in 1982 was 2,095,878. Table 1 gives the composition of the Jamaican population by its ethnic origin in the 1970 census.

This process of settlement has had two main consequences. One is that there is a fairly close correlation

Table 1
Population of Jamaica by ethnic origin (1970)

Negro/Black	1,634,686
East Indian	30,716
Chinese	11,781
American Indian	304
Portuguese	85
Syrian/Lebanese	1,007
White	11,841
Mixed	103,715
Other races	1,381
Not stated	1,863
Total	1,797,379

between colour and class. The white and fairer skinned people tend to belong to the upper social class while the darker skinned tend to belong to the lower. This has been noted by several writers (see Henriques 1953, Miller 1976, Phillips 1973, Kerr 1952). This generalization however admits many variations. The other consequence is the close relationship that has been observed to exist between the social class structure and the educational provisions. Over time an educational system has developed, largely by a process of transfer from Britain, which reflects the clearly defined social structure and has helped to perpetuate it. However, it has been the goal of governments over the last 30 years to correct the injustices inherent in this system and to create a more egalitarian structure.

One of the problems that Jamaica has had to deal with in recent times, and one fraught with threatening consequences for educational planning, has been the rapid rate of population increase. In 1960 the birth rate was recorded at 42 per 1,000, and the death rate at 8.8 per 1,000. At this point an active government-sponsored family planning programme was introduced which has succeeded in establishing a downward trend in the birth rate. Latest figures (1982) show a birth rate of 27.4 per 1,000. But with a death rate of 5.6 per 1,000 the natural increase in population is still at the rate of 2.18 percent. It should be observed too that the population is very young, with 49.17 percent being under 18 years of age. Hence the pressure on school space tends to be very great.

The political development of Jamaica since the 1940s has been in keeping with happenings in other parts of the world. The country has moved from the status of colony administered by Britain to a fully independent sovereign nation within the British Commonwealth. It enjoys a parliamentary democracy based on universal adult suffrage, with a well established two-party system.

1. Goals of the Education System

Both political parties have expressed great interest in education, seeing it as an instrument for development and as an agent for securing desirable social change.

The *Five Year Education Plan (1978-1983)* prepared by the Ministry of Education in 1977 states: "This government's philosophy envisages the creation of an egalitarian society based on the twin pillars of social justice and equality of opportunity." Thus it has been explicitly enunciated that all citizens of the country should have equal access to the education publicly provided, unhindered by considerations of social class, race, financial, or political affiliation. Also, there has been the expressed intention of government to strive for adequate provision of educational facilities.

In this respect great strides have been made over the last 25 years. Grammar school provision has been quadrupled, five new technical high schools and over 70 new secondary schools have been built, and teacher output increased 10-fold. Earlier (1948), the University

of the West Indies was established and in 1958 a technical college, the College of Arts, Science and Technology, was set up.

Another stated goal has been the development and modernization of the curriculum. Prosecution of this goal has been vigorously pursued.

2. General Structure and Size of the Educational Effort

The current structure of the educational system in Jamaica appears somewhat complex. Figure 1 attempts to set out the main elements of that structure and to indicate movement through the system.

Government provision at the early childhood level (3-6 years) is very limited. However, community support fills part of the gap. This is either by way of the many basic schools, mostly of poor quality, or by way of the small number of high quality private kindergartens or preparatory schools.

The primary period covering the age range 6-12 years marks the period of greatest support for education on the part of the general population. While no accurate figures exist for the proportion of the age group enrolled in schools, this is believed to be quite high, approaching 100 percent in the early years. However, attendance in the primary school is currently averaging 74 percent of enrolment and in the all-age school 66 percent.

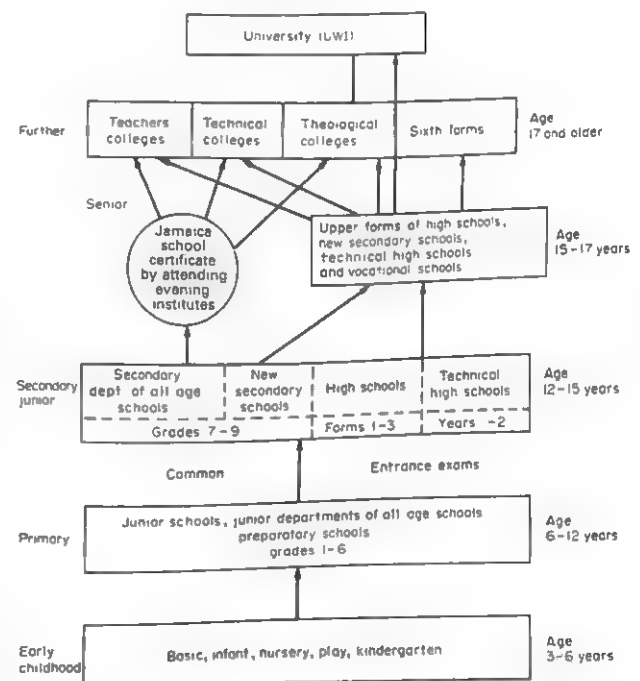


Figure 1
Structure of the educational system^a

^a Adapted from Miller (1976)

The structure at the secondary level is the most complex. There are different types of secondary schools, each type selecting its students differently, and with varying methods of certification. These are:

- (a) The secondary high school (the old grammar school) which is highly selective. This is a five-year programme, but most high schools retain their most successful students for a further two years beyond Ordinary (O') level to prepare for university entry.
- (b) The new secondary school, where entry is based on free transfer from the nearest primary school. This is also a five-year course.
- (c) Comprehensive high, which is a mixture of (a) and (b).
- (d) Technical high schools, where entry is based on a Common Entrance exam at age 13 or 14, and where students do a four-year course, preparing mostly for exams set by the British Examining Boards.
- (e) Vocational schools, two in number with special vocational training programmes of one or two years' duration. There are special selection tests.

Tertiary education is given in a variety of institutions. There are eight teachers' colleges, the Jamaica School of Agriculture, the College of Arts, Science and Technology (CAST), and the theological colleges. There is a Cultural Training Centre comprising Schools of Music, Art, Drama, and Dance. There are also four community colleges, with a wide range of courses, both academic and vocational. Finally there is the University of the West Indies (UWI), with bachelor's, master's, and doctoral degree programmes.

The figures on school enrolment for 1981-82 are as follows: preprimary 115,118; primary and all age 398,492; secondary 162,191; and tertiary excluding UWI 9,553. The number of teachers reported at the primary and secondary levels was 18,623.

The *Five Year Education Plan (1978-1983)*, in reviewing the government's educational effort, lists the following major problems still outstanding:

- (a) Inadequate institutional provision to give every child age 6 to 11+ six years of primary education.
- (b) Inadequate programme and instructional provisions at the primary stage, leading to a disproportionate number of children by age 12 not attaining a certain minimum competence in literacy, numeracy, social and learning skills to enable them to benefit from a secondary education programme.
- (c) Inadequate institutional, programme, and instructional provisions for the age group 12 to 16+.
- (d) Lack of rationalization of the secondary stage of education in terms of institutional curricula programmes; methods to determine entry; methods for certifying students; and staffing patterns.

- (e) An inadequate supply of qualified teachers with the knowledge, skills, and attitudes to produce desirable changes in the Jamaican education system.
- (f) Inadequate capability of the Ministry of Education to plan, organize, supervise, direct, and control education programmes and institutions for which it is responsible.

Jamaica has developed a number of informal adjuncts to the educational system. One of the most important of these operates through a foundation called the Jamaica Movement for Adult Literacy (JAMAL) which aims at improving the literacy level of the adult population. In this it is helped by radio and television programmes. Another of more recent origin is called Human Education and Resource Training (HEART). Here the government has enlisted the support of private enterprise to give training in technical and technological skills to those school leavers desiring it. In conjunction with this the government is in the process of establishing HEART "academies" to institutionalize such training. In addition family planning and family life education have been receiving attention, while the Extra Mural Department of UWI and the four community colleges run a number of programmes in continuing education.

3. Administration

The public education system is administered by a Ministry of Education whose political head, the minister, is a member of the cabinet. The executive head of the ministry is the Permanent Secretary, while the chief professional advisers are the chief education officer and the chief education planner. They head a professional staff who supervise the work in the schools. The day-to-day administration of each institution is entrusted to a Board of Management appointed by the minister. The board also operates a budget funded by the government.

The University of the West Indies is supported by all the territories making up the former British West Indian territories and is funded jointly by them, through a University Grants Committee. It is governed by its council and senate.

4. Educational Finance

The government's expenditure on education has grown tremendously since the 1960s. This represents, in part, the declining value of money consequent on inflation and successive devaluations of the Jamaican currency. Table 2 gives some indication of the emphasis government has placed on education.

The budget for the fiscal year 1983-84 anticipates a total recurrent expenditure of J\$2.124 billion of which education's share is J\$383 million or 18 percent, and a capital budget of J\$1.102 billion with education spending J\$39.51 million, or approximately 3.5 percent. The Ministry of Education is for this year the second largest spending ministry.

Table 2
Government expenditure on education

Year	Education budget (J\$)	Education budget as percentage of national budget	Education budget as percentage of GNP
1960	11,323,552	16.4	2.5
1965	15,417,340	16.4	3.3
1970	30,682,038	14.3	3.9
1975	110,811,366	16.0	6.0
1980	237,835,854	13.4	5.4

An indication of the expenditure on each child at the various levels of the system for the fiscal year 1979-80 is set out in Table 3. There is very uneven spending across the system with the primary and all-age schools getting the least provision and the technical high school the most per capita. The differences between the various types of secondary schools should also be noted. Part of the explanation for these differences is to be found in the salary differentials between graduate teachers (more numerous in the high schools and technical schools) and nongraduate teachers (more numerous in the other schools).

The funds provided for education can be broken down into the following broad headings:

- Personal emolument.** This relates to the salary paid to teaching and nonteaching staff and represents approximately 85 percent of the funds allocated to education.
- Other charges.** This relates to the amount used for providing class material/teaching aids and maintaining the school plant.
- Welfare programmes.** These include grants to parents, bus subsidy, grants to basic schools, provision of school uniforms, and school feeding programmes.

From the above one can see that government has taken over almost the total financing of education in the public institutions. This springs from the desire to relieve the burden on parents and to make good the

statement of equality of access to education. Nevertheless, parents still complain of the heavy costs devolving on them for books, transport, and boarding where students have to live away from home. However government gives a living allowance of J\$760 per annum for all students at the tertiary level. The government also operates a students' loan scheme for needy tertiary-level students.

5. Supplying Educational Personnel

There has been much haphazardness, even improvisation, in the supply of teachers. During the colonial period, teachers for the high schools came mostly from Britain, while teachers for the elementary schools were Jamaican, trained locally.

Soon after the founding of UWI a department of education was established, and the accepted route for the supply of high-school teachers became earning a degree in the arts or sciences and then professional training in the department of education. But large numbers of people have continued to enter teaching without professional training. Currently there are an estimated 700 graduates in the system without professional training.

Four training colleges were established before the end of the last century to supply teachers for the primary and all-age schools. But there was no addition in provision for the next half century and supply lagged far behind demand. This led in a number of untrained teachers. The last 25 years has seen the establishment of four new colleges. It is estimated that the country is now nearly self-sufficient in supply and efforts are being directed towards an improvement in quality.

Special training programmes have been set up in a number of tertiary institutions to meet special needs. Thus the College of Arts, Science and Technology has a technical education department to train technical teachers, while the College of Agriculture trains agricultural teachers. Similarly, the Cultural Training Centre trains teachers of music, art, dance and drama and the G. C. Foster School trains teachers of physical education and games. Finally, note must be taken of the effort of the School of Education (originally the Department of Education) at the University of the

Table 3
Per capita cost, 1979-80

Type of school	Per capita cost recurrent expenditure (J\$)	Per capita cost capital expenditure (J\$)
Infant, primary and all age	162.12	2.85
New secondary	384.50	21.86
Comprehensive	517.12	—
High schools	555.86	18.62
Technical high	1,032.29	34.61

West Indies to produce personnel for the system. The Bachelor of Education programme is designed to upgrade current practitioners in the field to assume posts of special responsibility. The Special Certificate in Education produces specialist workers such as guidance counsellors and teachers of the deaf, while the higher degrees programme provides people for the higher reaches of the system.

6. Curriculum Development

During colonial times, curriculum came largely by way of transfer from Britain. Modern times therefore saw definite efforts to devise curricula for the primary, all-age, and new secondary schools more relevant to Jamaica's circumstances and needs. A National Curriculum Committee was set up composed of both ministry and nonministry personnel. Its results have influenced recent educational development, and the process is under constant revision.

Curricula of high schools which had previously been determined by the British Examining Boards, mainly the Cambridge Syndicate, are now being linked more firmly to the Caribbean region with the establishment of a Caribbean Examination Council (CXC). This body has devised curricula more relevant to the needs of the area and developed new assessment strategies. One notable feature of the new thrust is the emphasis being placed on technical and vocational skills.

The University of the West Indies was first established as a college of London University and so required to follow London's syllabi. When, however, it achieved independent status in 1962, the freedom to devise new degree, diploma, and certificate programmes was eagerly seized. The development is continuing.

Concurrent with this movement has been the growth, though at a slower pace, of the production of textbooks and other teaching materials. The establishment of local publishing houses has given great impetus to the movement.

7. The System of Examinations, Promotions and Certification

Within the primary and secondary system children tend to move automatically from one grade level to the next. Movement from one type of school to another is sometimes subject to a selective process, at other times not, while at the end of school life there is usually some form of certification.

Thus there is free movement from preprimary to primary. But at the end of primary school there is a selective examination, the Common Entrance Exam, which creams the most intellectually able for the high schools. The rest either remain in their all-age school to age 15 or transfer to the nearest new secondary school.

Certification at the end of high school is secured through the General Certificate of Education (GCE)

Ordinary (O') level and/or Advanced (A') level exam or through the Caribbean Examination Council (CXC) and at the end of the new secondary school through the Secondary School Certificate (SSC) awarded by the Ministry of Education. Students attending the all-age school may prepare themselves either by private tuition or by attending evening institutes for the Jamaica School Certificate by means of which they re-enter the system.

Tertiary institutions including UWI usually have their own system of examination.

8. Educational Research

The Jamaican education system has not so far been marked by vigorous research activity. In recent times research in education has come from two main sources, the Ministry of Education and the School of Education of the UWI.

The efforts of the ministry arose from the need to gather statistical and other data and led to the beginning of survey research. Then came the appointment of a research staff and the creation of a research council. The last few years have seen systematic activity in educational research.

The major influence in the development of research capability of the country has been exercised by the UWI School of Education. Members of staff have been engaged in researching educational topics. This has resulted in a fair measure of published material. In addition, students pursuing advanced work usually receive training in research methods and apply this to their own research interests. In this way a body of researchers has been built up to service the region. Current research has mainly been in the areas of educational psychology and sociology, language and linguistics, historical and documentary topics related to education, and educational administration and planning.

9. Major Problems

The *Five Year Education Plan (1978-83)* sets out a number of goals for priority treatment during the plan period. These tasks seem likely to occupy the country's energies for the next two decades. They are set out as follows:

- (a) To develop, implement, and expand curricula for the primary, secondary, and tertiary stages which will embody the knowledge and skills, and help create the attitudes, to enable the people to live well in their world and help in the development of the nation.
- (b) To seek to provide adequate educational facilities for children of the age range 4 to 17.
- (c) To rationalize the structure and the flow of the educational system.

- (d) To develop and expand facilities and programmes for teacher training.
- (e) To expand provisions at the tertiary level. This includes the development of community college systems and the expansion and development of some existing tertiary institutions.
- (f) To develop, implement, and expand productive work programmes at the primary, secondary, and tertiary stages as an essential part of school activity.

Highest priority will be given to those policies that will positively affect the quality of primary education.

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Japan

T. Kanaya

Japan consists of nearly 4,000 large and small islands, stretching along the northeastern coast of the Asian continent, the longest span being 3,000 kilometres. The total area is 378,000 square kilometres (145,945 square miles), only one-fifth of which can be inhabited.

In 1984, the population was 120 million, of which more than 40 percent lived on 6 percent of the total land area. In 1984, those over 65 years of age formed 9.9 percent of the total population while those up to 14 years old formed 22 percent. In 1950, the percentages were 4.9 percent and 35.4 percent respectively. Age differentials are not similar in urban and rural areas. The Young people are concentrated in urban areas. The population growth rate is slow, being 0.6 percent in 1984. It is estimated that Japan's population will continue to increase until the year 2008, when it will be 130 million. It is expected to remain constant after the year 2075. These changing demographic patterns have caused several problems in education: finding new locations for schools and increased funding for the high cost of schools, hiring school teachers in urban areas, and the oversupply of teachers and of isolated education programmes in rural areas. An ageing population has stimulated interest in lifelong educational opportunities and the slow population growth rate has increased parents' concern for their children's education.

Ethnically, Japan is a homogeneous country. Foreigners number only 720,000. The medium of instruction is Japanese from preschool to higher education.

In 1984, 8.9 percent of the total labour force worked in the primary sector, 34.2 percent in the secondary, and 56.9 percent in the tertiary. The structure of the

labour force has changed very dramatically. Towards the end of the nineteenth century almost 80 percent worked in the primary sector; by the 1930s, the percentage dropped below 50 percent and by 1970, below 20 percent. In terms of the gross domestic product, 3 percent comes from the primary sector, 39 percent from the secondary, and the rest from the tertiary.

The government provides guidelines for private industry in the form of economic development plans. A new seven-year social and economic plan began in 1979. No definite planning on education is incorporated into the economic development plans, but separate educational development programmes are prepared by the Ministry of Education.

Since the 1947 Constitution, Japan has had a bicameral legislature whose members are elected by direct voting. Before that, the Imperial Constitution of 1890 established the *Tenno* (Emperor) as head of state supported by the Imperial Parliament composed of a house of nobles and a house of representatives. The government today operates through a party-cabinet system.

Administratively, Japan is divided into 47 *Ken* (prefectures) and further subdivided into 3,256 *Shi/Cho/Son* (municipalities). The 1947 Local Autonomy Law provides that local-assembly members and heads of the prefectures and municipalities should be elected directly by the people.

The establishment and maintenance of public schools and other educational facilities are the responsibility of boards of education in each local government area, with members of the boards appointed by the head of the local prefecture or municipality with the consent of the local assembly.

1. Goals of Education

The goals of education in Japan are enunciated in the Fundamental Law of Education (1947). Article One of the law states:

Education shall aim at the full development of personality, at rearing a people, sound in mind and body, who love truth and justice, esteem individual values, respect labour, have a deep sense of responsibility, and are imbued with an independent spirit as the builders of a peaceful state and society.

Since the issue of this Fundamental Law of Education, the general aims of education have periodically been cast in more specific forms as laws and recommendations of various councils, including the Central Council for Education, which advises the minister of education. The most recent statement of aims for Japanese education is the recommendations made by the Central Council for Education in 1971 as the guidelines for the reform of education. The statement is in keeping with the Fundamental Law of Education (1947) and identifies goals suitable for Japanese youth who are citizens in a global society that is experiencing rapid progress in science and technology, rapid economic development, and radical social changes. The recommendation states:

The objective of education for the development of personality should be to help people acquire the abilities for building a satisfactory and spontaneous life, for adapting to social reality, and for the creative solution of difficulties. The Japanese people, showing tolerance for the values of others, should realize their national identity and, on the basis of the rules of a democratic society and national tradition, should contribute to the peace of the world and to the welfare of mankind through the development of a distinct but universal culture.

Schooling in Japan emphasizes the development of basic abilities in young people rather than a set of specified vocational skills, on the assumption that they should be prepared to cope flexibly with rapid progress in science and technology and with rapid changes in society.

2. Structure of the School System and Size of the Education Effort

The educational system in prewar Japan was a multi-track system, in which diversification of courses started at the age of 12, when children left the six-year elementary school. This system was completely changed in the postwar reform of education. Figure 1 presents the structure of the school system at the beginning of the 1980s.

2.1 Kindergarten

A majority of children attend kindergarten or nursery school. Kindergarten is an educational institution under the jurisdiction of the Ministry of Education for children aged 3 to 5 years, while the nursery school is regarded

as a social welfare institution under the jurisdiction of the Ministry of Health and Social Welfare for children up to 5 years old. Activities at nursery schools for children of three years old and above are more or less the same as those provided at kindergartens.

2.2 Elementary Education

At 6 years of age, children begin to attend elementary school, which is compulsory for all. Elementary school lasts six years and is an educational institution to provide children with basic education relevant to their physical and mental development. The standard number of periods for school programmes per year is 1,015, varying from 850 periods in grade 1 to 1,015 periods in grades 4 to 6. Promotion from one grade to the next is practically automatic. Almost all children of this age group are enrolled and 99 percent are in public schools.

2.3 Secondary Education

Lower-secondary school is compulsory and lasts three years. Promotion from elementary to lower-secondary school is automatic as far as public school is concerned. Only 3 percent of children attend private school at this level. In addition to the subject matters taught at the elementary school, prevocational education subjects are provided at the lower-secondary school. A foreign language is also one of the elective subjects but in practice

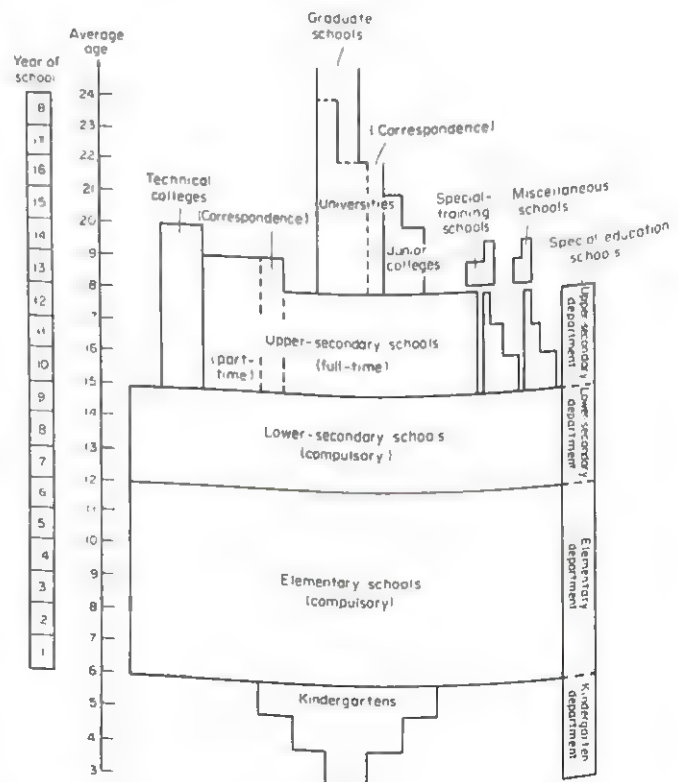


Figure 1
Structure of the educational system

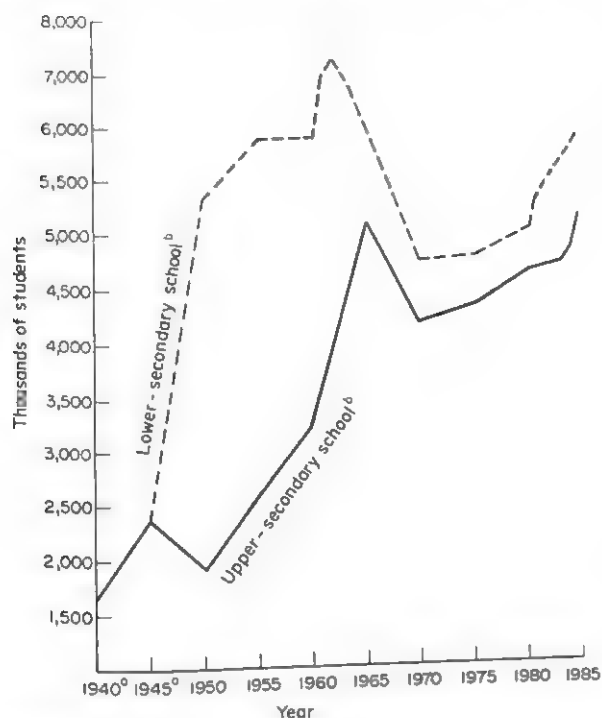


Figure 2
Secondary-education enrolment 1940-85

a Figures for 1940 and 1945 do not include students at vocational supplementary schools b The peak of lower-secondary school enrolment was in 1962, with a total of 7.3 million, whereas that of upper-secondary school enrolment was in 1965, with a total of 5.1 million

almost all lower-secondary schools teach English as a foreign language. The total number of periods given at the lower-secondary school is 1,050.

After compulsory schooling, three to four years of upper-secondary school education is provided. An entrance examination is given and 94 percent of graduates from lower-secondary schools enter upper-secondary school. However, 28 percent of upper-secondary school students are enrolled in private institutions. Approximately 70 percent of students are enrolled in the general education course. In addition to the general education course, technical and vocational education courses such as industrial education and business education are provided. Part-time as well as correspondence courses are run on a four-year basis instead of the three year for daytime courses. Figure 2 presents the development of enrolment in secondary schools from 1940 to 1985.

2.4 Higher Education

After upper-secondary school, students proceed to *Dai-gaku* (university) or *Tanki-daigaku* (junior college), which requires passing an entrance examination. Students wishing to proceed to the national and public universities take first the common entrance examina-

tion, which is an achievement-type test, and then the entrance examination, which comprises interviews, essay tests, and other examinations organized by each individual university. A final decision on entrance is based on the results of the two tests and the upper-secondary-school report. Private universities select their entrants by their own examination.

Daigaku or university courses last four years except for medical and dental courses. *Tanki-daigaku* or junior-college courses last two to three years. Some 75 percent of *Daigaku* students and 90 percent of *Tanki-daigaku* students are in private establishments. In 1985, 53 percent of *Daigaku* students were enrolled in social science and humanities courses and 27 percent in science and technology courses. Another type of higher institution of learning is *Kotosenmon-gakko*, lasting five years, which requires as a qualification for entry graduation from lower-secondary school. This is mainly for technical and vocational education. Figure 3 presents enrolment development in higher education from 1940 to 1985.

2.5 Nonformal Education

In Japanese, nonformal education is known as social education. This is defined by law as organized educational activities not provided by formal schooling. Learning courses for different segments of society (adult schools, youth classes, women's classes, courses for the aged, etc.) correspondence courses for basic-skill development, courses for hobbies, and leisure-time activities, extension courses conducted by upper-

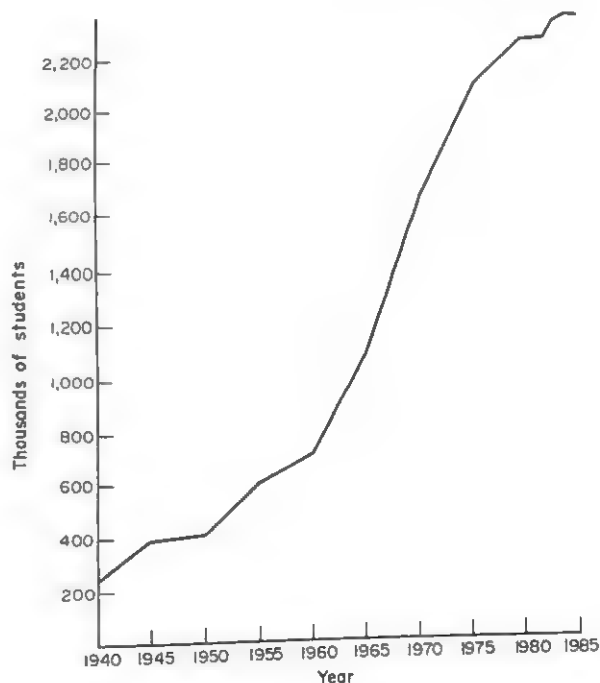


Figure 3
Higher education enrolment 1940-85

secondary schools and universities are organized by local boards of education. These social education programmes are under the jurisdiction of the Ministry of Education. The ministry is also in charge of special training schools and miscellaneous schools which are nonformal education institutions providing technical/vocational training courses equivalent to those at the upper-secondary and junior-college levels. The Ministry of Labour organizes several types of institution for vocational training and the Ministry of Agriculture, Forestry, and Fishery provides various training opportunities in agriculture, fisheries and forestry, mainly for young farmers, fishermen, and forestry workers.

There are many radio and television programmes for general education and skill training purposes. Learning courses on various subjects are also provided by non-governmental bodies such as newspaper companies, broadcasting companies, and department stores in large urban areas.

Opportunities for distance learning are supplied by institutions at the upper-secondary level and the university of the air, but these programmes are all within the framework of formal education.

3. Administration

At the national level, the Ministry of Education, Science, and Culture is the principal agency which shares responsibilities with the cabinet and the Diet for preparing budget estimates, drafting educational legislation, and formulating educational policies. The ministry allocates financial aids to prefectural and municipal boards of education and assists such boards with advice and technical guidance. The ministry prescribes guidelines for curriculum, and credit requirements for kindergarten through higher education. Curricular standards for elementary and secondary schools are described in the form of "courses of study" issued by the ministry. The ministry is also responsible for authorizing textbooks in all elementary and secondary schools.

Each of the 47 prefectures has a board of education to administer local education affairs. The five-member boards administer prefectural institutions of education and social education programmes established by the prefecture. In addition, the prefectural boards supervise personnel matters for public educational institutions, provide inservice training for teachers, purchase and manage instructional materials, promote special education activities, protect cultural assets, and offer advice to municipal boards of education.

Each municipality maintains a three- to five-member board of education whose major functions are to establish and manage municipal educational institutions, administer personnel matters in such institutions, adopt textbooks for municipal elementary and lower-secondary schools, and provide advice and guidance to educational institutions.

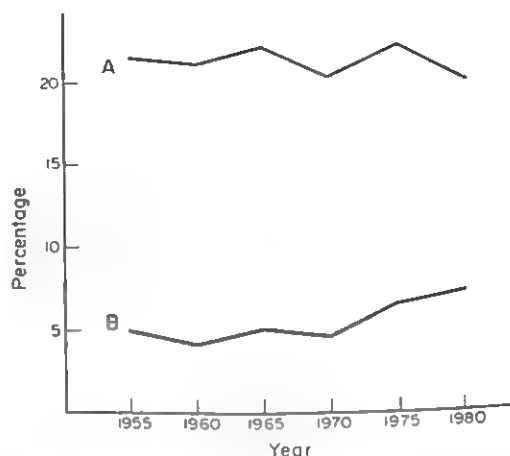


Figure 4

Trends in public education expenditure as a percentage of total state budget (A) and GNP (B) 1955-80

4. Finance

The current system of educational administration provides for national, prefectural, and municipal sharing in the financing of educational activities, with funds obtained from taxes and other revenue sources. In 1981, a total amount of 17.9 billion yen (approximately US\$77,800 million) was spent on education. Public expenditures on education reached 15 billion yen (approximately US\$65,400 million) which represents 19.6 percent of the total expenditure for government services in Japan. A total of 15.9 billion yen (i.e., public and private funding) was spent on schooling, from kindergarten to higher education, of which 28.7 percent was from the national government, 53.7 percent from local government, and the remaining 17.6 percent from the private sector including parents. From this total of 15.9 billion yen, 54.1 percent was allocated to compulsory education, 18.1 percent to upper-secondary schools, and 21.2 percent to higher education.

Figure 4 presents the trends (1955-80) of state budgeting to education as a percentage of the total state budget and of the gross national product (GNP).

5. Teacher Education

Teachers for elementary and secondary schools are trained in higher education institutions, including university, graduate schools, and junior colleges sanctioned by the Ministry of Education. Teaching certificates prescribed by law are granted for life by prefectural boards of education and are valid in all prefectures. An elementary-school teaching certificate qualifies a teacher to teach all subject matters in an elementary school, whereas secondary-school teaching certificates authorize teachers to teach specified subject fields only.

To obtain a post in a public elementary or secondary school, a candidate must take a recruitment examina-

Table 1
Teachers' academic background and length of service 1979 (%)

Academic background	Elementary school teachers	Lower-secondary school teachers	Upper-secondary school teachers
Graduate school	0.2	0.8	4.6
Bachelor's degree (4 years at university)	50.6	68.1	81.7
Two years beyond upper-secondary school	39.1	28.7	12.1
Upper-secondary school	12.2	2.4	1.6
Years of service			
5-10	23.2	19.7	18.7
10-15	16.2	14.5	15.1
15-20	10.2	10.0	13.7
20-25	7.0	11.7	11.8
25-30	10.8	14.6	10.3
More than 30	24.6	15.7	12.3

tion. The appointment is made by the prefectural board of education on the basis of the recommendation of the prefectural superintendent, who usually takes into consideration the results of the recruitment examination. The teachers in public elementary or secondary schools are designated local public officials. Promotion to administrative posts such as deputy principal or principal in public schools usually requires a candidate to pass a series of examinations for promotion and to complete specified inservice training.

Table 1 presents academic backgrounds and length of service of full-time school teachers.

6. Curriculum Development

The school curriculum is based on the course of study prescribed by the Ministry of Education, in which the basic framework for curriculum at each grade level including objectives, instructional content, and standard including allotments are stated. The prefectural and municipal boards of education prepare guidelines for curriculum development in the schools in their areas, and individual schools are required to organize their own detailed instructional programmes on the basis of the courses of study and the guidelines.

At the beginning of the 1980s, the educational programmes in the elementary school comprised instruction in Japanese language, social studies, arithmetic, general science, music, art and handicrafts, physical education, and homemaking (for grades 5 and 6). In addition, moral education is compulsory for one period a week in public schools and can be replaced by religious education in private schools. Special activities are another area of education in elementary school, and such programmes may contain home-room activities, children's

assembly, club activities, sports meetings, school excursions, etc. In the lower-secondary school, subjects are in two categories: compulsory and elective. Japanese language, social studies, mathematics, general science, music, fine arts, health and physical education, prevocational/homemaking are compulsory, and elective subjects include foreign languages, music, fine arts, health and physical education, and prevocational subjects and homemaking. Moral education and special activities are also conducted in the lower-secondary schools.

The school year begins in April and ends in March, and one school year consists of three school terms. The first is from April to July, the second from September to December, and the third from January to March.

The courses of study produced by the Ministry of Education are formulated in the following way. The curriculum council, the minister's advisory organ on matters of school curriculum, prepares the basic guidelines, upon the request of the minister, for revising a course of study. The guidelines prepared by the council are utilized by ministry subject specialists and their collaborators as the basis in writing the course of study for each grade and subject matter. A course of study is revised approximately every 10 years. Teachers' guidebooks for each grade level and subject are typically also prepared by curriculum specialists in the ministry with the assistance of teachers who are involved in the deliberations of the curriculum council.

The textbooks authorized by the ministry and adopted by the local boards of education for use in schools serve as the main instructional material in the classroom. The textbooks are developed by commercial publishing companies and once adopted they are distributed free of charge to children in compulsory schooling, i.e., through lower-secondary school.

7. Examinations, Promotion, and Certification

At all levels of the school system, tests of various types and several other sources of information are used to judge whether students should be promoted to a higher grade, should be enrolled in a given school, or should be certified as having completed a course. In elementary schools, the decision about promoting pupils from one grade to the next and of graduating them is based entirely on internally administered tests and other measures. No external tests are given. Legally, pupils can be required to repeat a grade if they have not attended more than half the total number of school days in the year, if their subject matter achievement is unsatisfactory, or if they have a record of misbehaviour. However, in practice, promotion is automatic from grade to grade within compulsory education.

Public upper-secondary schools select their qualified entrants on the basis of the results of the scholastic ability tests administered by the relevant boards of education and the reports on each applicant submitted by the lower-secondary schools. The system of internal evaluation in upper-secondary schools is almost the same as that for lower schools. Since upper-secondary schooling is not compulsory, students are required to repeat grades or are expelled for poor achievement or misbehaviour.

Entrants into universities and junior colleges are selected by each receiving institution on the basis of a minimum of 12 years of formal schooling, of an acceptable entrance examination score, and of a satisfactory upper-secondary school record. The two-stage screening procedure has been described above (Sect. 2.4).

8. Major Problems

There are several problems facing Japanese education. The population trend governing the size of the 18-year-old age group (the age at which pupils graduate from secondary school) is now the focus of particular concern. The size of this age group will continue to increase until 1992, when it will begin to decrease and by 1997 it will be almost at the same level as 1984. The range of the increase and decrease in the size of the 18-year-old age group will be about 300,000. Such a swing in the population within such a short period of time causes various problems, particularly for upper secondary education in urban areas and for higher education planning. At the elementary level, however, the population has begun to decline and this decline may be utilized for the improvement of instructional conditions at that level. The population increase, together with the continuing increase in technological sophistication within the nation's expanding industrial complex, will cause pressure for an expansion of higher education enrolment. This pressure is backed by the wealth of society and the enthusiasm of people for education. Currently the enrolment ratio in higher education is around 38 to 39 percent, and it is anticipated that the student population

of the four-year universities will be over 2 million by 1992 if this enrolment ratio continues. But this figure is probably low, since continuing pressure to raise the educational level of the workforce to meet advanced technological requirements and the overwhelming demand for higher education opportunities among the population will require the proportion of an age group in higher education institutions to increase.

Progress in science and technology and changes in the sectoral distribution of the workforce will also require a change in emphasis in school educational programmes. Instead of knowledge-based instruction at school, emphasis will be on the creativity and character development of individual children.

There appears to be a widespread belief within the Japanese population that the present-day educational system is producing youths exhibiting two serious shortcomings. People express astonishment at what they perceive to be young people's lack of basic knowledge and skills, and of a "proper attitude towards life". A variety of indicators suggest that neither the school nor the home is teaching children a suitable way of life. Such indicators are: less respect for elders, increased self-centred and wilful behaviour, impoliteness, capriciousness, a decline in physical strength and fitness, nonparticipatory attitudes towards social affairs, and rising rates of juvenile delinquency.

Thus, improving the quality of school education, expanding and qualitatively developing higher education, and providing diversified educational opportunities in and out of the formal schooling systems are among the major tasks to be tackled by Japanese society.

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Jordan

T. Bermanet and A. Zash

Jordan is a developing country which emerged as a modern state in 1921. It achieved its independence from the British Mandate in 1946, and entered the Palestine War in 1948, following the historic meetings held in Nablus and Hebron at which both banks of the River Jordan were incorporated in the newly proclaimed Hashemite Kingdom of Jordan. This unity continued until 1967, when it was disrupted after the 1967 Arab-Israeli war due to the Israeli occupation of the West Bank of Jordan.

Jordan is located near the eastern end of the Mediterranean Sea. It has a total area of 96,188 square kilometers of which the West Bank forms an enclave of 6,633 square kilometers.

Jordan is part of the Arab world. Most of the people are Moslem; the rest are Christian. Arabic is the official language and the capital is Amman. The population was estimated according to the 1982 census as 2,415,200. The annual population growth is 3.8 percent. Jordan has three main groups of inhabitants: the villagers who farm for a living; the urban population who work in the public, private, and industrial sectors; and the Bedouins.

Since King Abdullah bin Al Hussein established the state in 1921, Jordan has been governed by a parliamentary system and constitutional hereditary monarchy. The king is entitled to appoint the prime minister and the commander in chief of the armed forces, and through them he exercises his power. Legislative power is represented by two houses: the upper house of the Senate and the House of Representatives.

During the period of the Ottoman Empire, when Jordan was part of Syria, education was run by the director of education in Damascus according to the laws of the Ottoman Empire and received little attention. In 1921, there were only 25 schools with 53 teachers, including 6 female teachers. In 1923, the first educational council was established. It was chaired by the prime minister, and the members were the directors of general education and public works and the royal inspector. The council selected teachers and office personnel and supervised the curriculum. In 1939, schools were divided into two kinds: public schools, run by the government, and private schools, run by individuals and religious bodies. This situation lasted until 1948, when education became the responsibility of the Ministry of Education, whose central office consisted of inspectors, chief editors, an accountant, storekeeper, and some clerks. In 1950, following the unification of the West and East banks, all schools on both banks came under one authority, the Ministry of Education.

1. Goals of the Educational System

The Law of Education No. 16 (1964) stated both the

philosophy of education and its general objectives. It integrated elements of Arabic Islamic thought with those of contemporary Western thought and technological and scientific developments.

Education aims at preparing good citizens who believe in the basic principles of the philosophy of education, the practical realization of moral ideals in all aspects of behavior, and an understanding of the social, intellectual, and physical features of the environment, from the home, schools, villages, cities, and the Arab homeland to the world community at large. Education aims at helping every student to grow intellectually, socially, physically, and emotionally in order to become an ideal citizen capable of self-support and of contributing to the development of society.

The educational system provides equality in access to general education for boys and girls, in urban and rural areas, in order to prepare them for employment and higher education.

2. General Structure and Size of the Educational Effort

The Ministry of Education is responsible for all major educational decisions related to curriculum, planning, and examinations. At the central office of the ministry there are 15 directorates and one office: planning and educational research, community colleges, curricula, personnel, finance, inservice training and certification, cultural and public relations, test and measurement, projects, school building and housing, educational technology, computers, student affairs, general education, educational activities, and the office of educational evaluation and follow up. Adopting the principle of decentralization, the ministry divided the East Bank into 19 education offices distributed under five district education directorates, each one run by a director general accountable to the secretary general and in charge of implementing educational policies in the directorate area.

Although education in Jordan is run by the ministry, it should be pointed out that around 10 percent of the total school enrollment is in schools run by the Ministries of Defense, Health, Labor, and Islamic Affairs and by the private sector. The education of Palestinian refugees is the joint responsibility of the United Nations Relief and Work Agency for Palestine Refugees (UNRWA) and UNESCO.

2.1 Formal Education

Figure 1 presents the structure of the Jordanian system of education. Although preschool education is provided by the private sector, preschools operate according to regulations issued by the Ministry of Education. Children are admitted to preschool institutions at the age

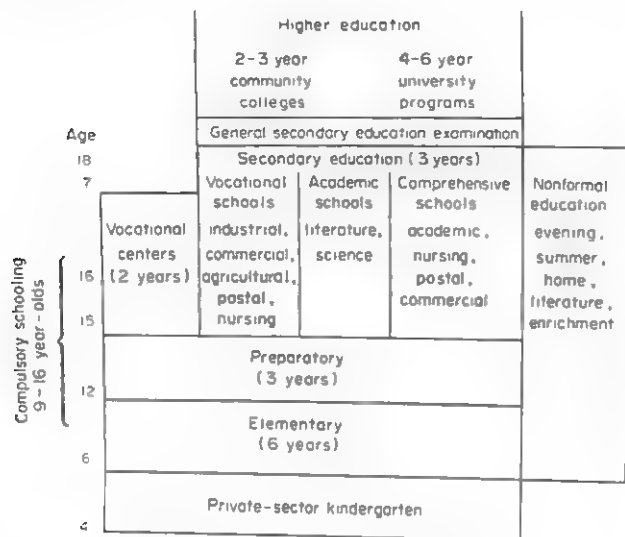


Figure 1
Structure of the educational system

of 3 years and 8 months and stay for a period of two years.

A child admitted to the first grade of elementary school learns Arabic, religion, arithmetic, history, geography, science, civics, drawing, physical education, embroidery, and art. At the beginning of grade 5 children begin to learn English as a second language, but at private schools they begin learning English at an earlier age. In 1983-84, there were 1,166 elementary schools with 486,703 students and 15,036 teachers. Most elementary-school graduates enter preparatory school. This school offers, in addition to the subjects studied in the elementary school, social science and vocational courses. Boys are required to study vocational courses for three years while girls are required to take courses in home economics. The number of students in preparatory schools in 1983-84 was estimated at 197,757. Figures 2 and 3 present the development of enrollments in primary schools and in preparatory and secondary schools respectively.

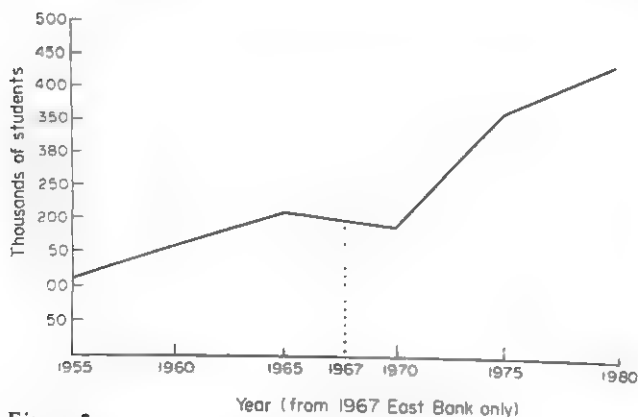


Figure 2
Primary-school enrollment 1955-80

Secondary school is composed of grades 10 to 12. Successful students can enter one of several options in secondary schools on the basis of achievement records and available places in the first secondary class. The three types of secondary education have different aims: the general schools aim at preparing students for higher education, the vocational schools aim to provide society with skilled workers, and the comprehensive schools aim at producing educated and trainable students.

Higher education is provided by community colleges and universities. Community colleges of two years' duration include: 10 colleges controlled by governmental agencies such as the Ministries of Health and Social development or the armed forces, 12 colleges controlled by the Ministry of Education, and 20 colleges controlled by the private sector. All private colleges are supervised by the Ministry of Education. The total enrollment of these colleges was 25,357 in 1982.

There are three universities in Jordan, the University of Jordan in Amman, Yarmouk in the north, and Mo'ate in the south, which were established in 1962, 1973, and 1980 respectively. These universities are administratively and financially independent. The total number of students in the universities of Jordan and Yarmouk were 11,757 and 6,000 respectively in 1980. Students who pass the General Secondary Education Examination and also meet the admission requirements are admitted.

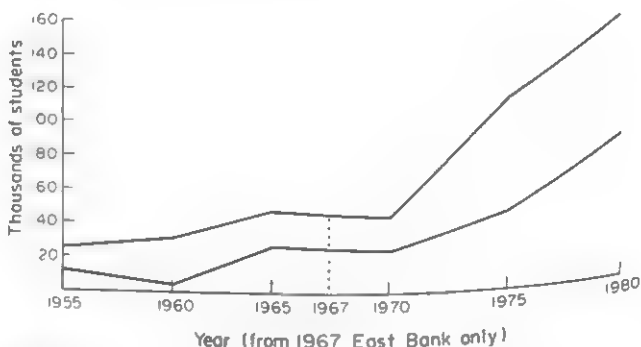


Figure 3
Preparatory- and secondary-school enrollment 1955-80

2.2 Nonformal Education

The ultimate aim of nonformal education is to provide further learning opportunities for children, women, men, and school leavers. At present, the Ministry of Education uses formal-education buildings in which to conduct two types of activity: job-related education and general adult education.

According to the 1981-85 five-year plan around 50,000 citizens will become literate by the end of 1985. Jordan is trying to develop nonformal education quantitatively and qualitatively in order that its citizens can begin to be more active in the social and economic development of the country, especially in rural areas.

In addition to literacy programs, the ministry organizes evening and summer courses to provide additional learning opportunities for school dropouts, thus enabling them to return to formal schools. Mass media, including radio and television, are used in these non-formal programs.

3. Finance

Jordan provides free education in public schools and colleges. Textbooks are distributed free of charge during the nine years of compulsory education and at cost price in secondary schools. Students from poor families are exempted. Private schools and colleges are financially independent.

Education is financed by government and from local and foreign sources. Government expenditure comes from the national treasury and from education taxes; in 1980, the education budget was 8 percent of the state budget. Local sources comprise the private sector, municipalities, fees, and local aids, and foreign sources comprise international loans from the World Bank and foreign agencies and international aid.

4. Supply of Personnel

The Law of Education (1964) stipulated that no teacher would be employed in any public or private educational institution without a license from the Ministry of Education. This license is renewable. All teachers and personnel are appointed by the Ministry of Education according to a civil service law which stipulates the terms of recruitment, classification, promotion, and retirement.

In addition to preservice teacher training provided by community colleges and universities, the ministry established an inservice training and certification directorate to organize inservice training programs. To attract good people to the teaching profession the ministry has tried to improve conditions of work by providing, for example, staff housing in remote areas, better educational materials and equipment, and better transport for teachers to and from their work.

5. Curriculum Development and Teaching Methodology

The fundamental aim of the curriculum is to meet the needs of the individual and society. In Jordan, there are four main bases for curricula preparation: philosophical, psychological, social, and that pertaining to the nature of the subject matter. The requirements of each level of education are taken into account in terms of objectives, content, and methods of teaching.

The curricula directorate issues instructions for writers of textbooks, including textbook evaluation cards to evaluate content, aims, importance, and methods of instruction. There is also a brief description of the general characteristics which must be included in

every textbook, such as type of information and author style. Textbook writers are selected by means of a competition held by a directorate committee.

Both teaching and nonteaching personnel, who are appointed on a part-time basis, work within the framework of approved curricula, that is, textbooks, teachers' manuals, and educational television.

6. Educational Research

Within the directorate of educational planning and research at the ministry a division of educational research was established in 1962. It undertakes studies on the following themes: dropout rates, child development, administrative problems of principals, comprehensive secondary schools, and the improvement of the quality of education. In 1978, the ministry established an educational research committee to prepare general research proposals and to supervise such research.

7. Major Problems

An increase in primary-school enrollment will cause an increased demand for admission to secondary schools and universities. Given the population explosion, and available funding, the possibility of extending further education will not be accomplished easily. At the current fertility level, the primary- and preparatory-school age group (6-14) will be 25 percent larger in 1985 than it was in 1975, and 65 percent larger in 1995. The cost of educating the larger primary- and preparatory-school population in 1985-95 should similarly increase by about 25 and 65 percent respectively. In view of the quantitative increase, quality may suffer. It will be difficult to expand the number of teaching personnel and educational facilities fast enough to keep pace with the population explosion.

Although illiteracy should disappear as a result of compulsory education, it will remain a problem throughout the 1980s if the present scale of operations are not improved and developed. Due to a lack of studies of general trends to predict further demand for skilled personnel, it will be difficult for planners to estimate the number and quality of the different types of personnel needed for the various aspects of the development plans.

The 1981-85 plan aims to achieve structural changes in the Jordanian economy. This necessitates according a high priority to commodity-producing sectors and related infrastructure projects in order to correct the imbalance in the structure of the national economy. This leads to the adoption of an educational policy aimed at expanding and diversifying secondary education and at expanding technical institutions at the postsecondary level to produce trained personnel in various specializations, but with priority given to the developmental needs of both the industrial and agricultural sectors.

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Kampuchea

T. N. Postlethwaite

Kampuchea, formerly known as Cambodia, is the state remaining from the old, extensive Khmer Empire, which once included Thailand and most of Indochina. Cambodia became a French protectorate in 1863. In the Second World War, it was occupied by the Japanese. In 1945, the French regained control but in 1946 the French Protectorate was terminated. Cambodia became a constitutional monarchy. National independence was declared in 1953 and international recognition of this status was acknowledged the following year. In 1955, Cambodia was admitted to the United Nations. Over the following one and a half decades there were border conflicts with neighbouring countries and towards the end of the period increasing conflict over the type of government and the political persuasion the country should adopt.

The period 1970-79 was one of civil war and oppression. These 10 years were characterized by aggression, death, hunger, insecurity, enforced ignorance, separation of family members, and the destruction of buildings, including schools. Of the population killed, the majority were among the best educated cadres in the country. In 1978, invading Vietnamese forces overthrew the Khmer Rouge government and established the People's Revolutionary Council. The beginning of the 1980s saw a ruined land and infrastructure and a very small number of persons to lead and plan the reconstruction. The major tasks of reconstruction were the distribution of food and agricultural goods. In these circumstances, economic sectors such as industry and commerce and social sectors such as health, education, and welfare were a secondary priority for government action.

This article reports on the Kampuchean system of education at the beginning of the 1980s—the onset of the period of reconstruction. It can only be hoped that the system will improve rapidly and that what is reported here will soon be outdated.

At the end of February 1979, schools were allowed to start operating on an ad hoc basis; in July 1979, an official circular announced the new structures and educational programmes; in September, the new 1979-80 school year was officially opened (mainly for primary

education and teacher training); in November, an official circular called upon ex-secondary-school students, secondary-school teachers, and university lecturers to prepare for educational activities.

By mid-1980, the schools were reopened and the total enrolment was nearly one million. However, it is worth noting that in any "typical" primary school about 30 percent of children had no father, 10 percent no mother, and between 5 and 10 percent were orphans.

In the early 1980s, the Ministry of Education had about 200 staff to man 7 departments: secretariat; general and early-childhood education; adult education (including literacy campaigns); organization and recruitment of personnel and teaching staff; educational programmes (including textbook development and textbook and materials production); teacher training and upgrading; and secondary-technical and higher education. Each province had a provincial education committee. The committee was composed mostly of former teachers. It was responsible to the Ministry of Education for professional matters and to the People's Revolutionary Committee for administrative political matters. Similar education committees were being formed at the district and community levels.

1. Structure of the Educational System

The formal educational structure consists of 4 years of primary school, 3 years of lower-secondary school (college), and 3 years of upper-secondary school (lycée). The prewar structure was 6:4:3. Thus, the number of formal school years was reduced from 13 to 10.

Secondary-level technical and agricultural schools were to be opened at the end of 1980. They were to focus on producing technical and agricultural technicians and engineers.

Teacher training was given in 5-20 week courses. Institutions of higher learning reopened at the end of 1980 and had about 680 students in 1981. The most frequented faculties are teacher training (secondary-school teachers), engineering, medicine, and foreign languages.

2. Enrolment

Preprimary education, which did not exist before the war, covers the age range 3 to 6. About 15,000 children were enrolled in 1981 in 211 preprimary schools employing 630 teachers.

Given the poor condition of school buildings and the need for children to help their families in agricultural activities and the daily search for food, it is noteworthy that nearly 20 percent of the total population or about 67 percent of the 6–15 age group was enrolled in primary schools in 1981—an impressive figure. The prewar 1968–69 school-enrolment ratio was 62.2 percent. However, there is great variation around the present 67 percent enrolment rate—from 70 percent in the capital to 40 percent in certain isolated provinces.

Most teachers in primary schools are unqualified. Boys and girls attend in about equal numbers. There are about 3.5 classrooms per school, an average of 55 pupils per classroom, and a pupil/teacher ratio of 50:1. The heaviest enrolment is in grade 1. The enrolment distribution is approximately grade 1—75 percent, grade 2—20 percent, grade 3—4 percent, and grade 4—1 percent. Dropout rates cannot be considered since the system is “new”.

By the end of 1980, secondary education had barely begun. Only about 6,000 students were enrolled compared with over 100,000 a decade earlier. Over 60 percent of the enrolment is male and the student/teacher ratio is 25:1. It is estimated that 53 percent are enrolled in grade 5, 30 percent in grade 6, and 17 percent in grade 7.

Adult education classes of short duration have started all over the country. Out of an estimated 1.4 million adult illiterates in the country, almost 170,000, or 12 percent, have completed such classes. It was considered important to focus on the age group 14–20 years—those who had received no education because of the war.

Teacher training consists of upgrading courses of 5–20 weeks' duration for the 16,000 auxiliary teachers who had no formal training as teachers.

Institutes of higher education have reopened. However, in mid-1980, only 50 former university lecturers could be found. It is expected that visiting professors will be invited from “friendly” donor countries (e.g., Vietnam, Soviet Union, etc.). The emphasis is on the training of high-level technicians, engineers, and secondary-school teachers.

Curriculum development is carried out in the programme and textbooks division of the ministry. This division employs 40 percent of the total ministry staff. The staff drafts materials which are all examined by a departmental commission on which the central committee is represented. The textbooks are then printed in Ho Chi Minh City. Quantities are still small. Typically, the authors use reference materials in French (often old ones) or pre-1970 Khmer textbooks as a basis for the new textbooks and materials. Teacher manuals/guides are also produced for some grade levels/subject matters; these are mimeographed at the Ministry of Education Printing Workshop, in insufficient quantity. Given the lack of skilled personnel, the lack of reference materials, and the lack of supplies such as paper, pens, and ink, the task of curriculum development and implementation is a formidable one.

The immediate future will witness great efforts in the repair and provision of school buildings and equipment, the production of sufficient textbooks, the training of sufficient teachers, and the development of nonformal schemes of continuing education and work for the age-group 11–16. These are the priorities. Emphasis will be on primary and adult education. Slowly, secondary, secondary technical, and higher education will emerge. And nearly all financial input, with the exception of teachers' salaries, must come from outside (e.g., bilateral agencies, UNICEF and other UN agencies, and non-governmental organizations) until such times as the economy begins to recover. Kampuchea is in a very special situation.

Since the writing of this article in 1982, several changes have taken place in the Kampuchean school system. A written report has not, however, been available.

Kenya

G. S. Eshiwani

The Republic of Kenya, on the east coast of Africa, extends roughly 4° on each side of the equator and stretches between longitude 34°E and 42°E. The neighbouring countries are Somalia, Sudan, Uganda, Ethiopia, and Tanzania.

The total area of the country is 582,646 square kilometres (224,960 square miles), of which less than 50 percent is agriculturally productive. The productive districts are concentrated in relatively small regions of the highlands in western Kenya. Extending from Lake

Victoria in the west to the Indian Ocean in the east, the country can be divided into five broad geographical regions: the lake basin is a well-watered environment extending into Uganda and Tanzania; the central and associated highlands, which are heavily cultivated and have a large number of freshwater and saline lakes; the eastern plateau foreland; the coast, which extends along the entire length of the Kenyan seaboard; and the northeast plateau, which includes both the Nyika hinterland and the scrub and desert of northeast Kenya.

In 1979, the Kenyan population was 15,327,061 persons, of which 7.7 million were females and 7.6 million were males. The annual population growth rate was 3.5 percent. Some 7.3 million were under 16 years of age, and 6.6 million, including housewives, were in the economically active age group. Of these, 4.6 million (2.5 million females) were working in the rural areas and not as wage earners. Some 1.9 million people lived in towns and the urban population growth rate was 7.2 percent. At present, the population is estimated to be approximately 20 million people.

Primary production is the basis of much of national planning. The natural resources are agricultural, including fish, timber, and mineral products. From 1960 to 1980, Kenya's agricultural output doubled, and the contribution of agriculture to overall growth and welfare has been substantial. In sectoral terms, trade changed strongly in favour of agriculture in 1979, due to increased export prices and increases in administered domestic prices for wheat, maize, and sugar cane. Kenya's main exports are coffee, tea, and sisal. Some 50 percent of exports are primary products.

The manufacturing sector ranks second to agriculture in order of importance to Kenya's economy. The rate of growth of the sector between 1972 and 1977 was of the order of 10.5 percent per annum, about twice as high as the overall rate of growth of the whole economy. The largest subsectors are food processing, base metal, metal-products machinery and equipment, and chemical industries.

The Republic of Kenya is a unitary state formed after more than 60 years of British colonial experience. It has a legislature, the National Assembly, composed of 158 elected members and 12 national or nominated members. The legislature is the supreme authority in the land and has ultimate responsibility for government.

Kenya is divided into seven administrative provinces: Western, Nyanza, Rift Valley, Central, Eastern, Coast, and North Eastern. Nairobi is a provincial district. Each province is headed by a provincial commissioner. Provinces are divided into districts and the latter into divisions. Each district is headed by a district commissioner, and each division by a division officer. Each division is further divided into locations and sub-locations, headed by chiefs and assistant chiefs respectively. Sublocations are thus the smallest formal administrative units in Kenya.

The executive consists of the president, vice president, and ministers responsible for initiating and directing national policies. The ministers control government departments, which are staffed by civil servants. The departments are responsible for administration at the national level while local authorities are responsible at the local level.

The judiciary determines common law, interprets statutes, and is independent of the legislature and executive.

Kenya has a single civil service appointed by the Public Service Commission. Provincial administration

is decentralized to the regional level. The civil service is the instrument of the executive authority vested in the president. The functioning of the civil service is affected by factors that are usually extralegal and essentially political. The president appoints ministers who advise the president on the government of Kenya and are responsible to the National Assembly for acts done under the authority of the president or vice-president or under their own authority.

Kenya is a one-party state and the ruling party is the Kenya African National Union (KANU). According to the party's manifesto, KANU is a party of the people. Its main objective is the rapid and sustained development of Kenya.

1. Goals of the Educational System

The tremendous expansion that took place in Kenya's educational system between 1964 and 1975, and the social changes that accompanied the expansion, dictated a review of the national goals of education in 1964 and again in 1971. In 1980, the National Committee on Educational Objectives and Policies (NCEOP) outlined the goals for education in Kenya for the 1980s as follows:

- (a) Education should promote national unity by removing social and regional inequalities and increasing adaptability.
- (b) Education should promote the full development of the talents and personality of individuals within the context of mutual social responsibility. It should also promote cooperative, social, ethical, and cultural values conducive to national unity and positive attitudes to work and incentives.
- (c) Education should promote national development and an equitable distribution of incomes. It should assist youth to grow into self-disciplined, self-respecting, and mature people.
- (d) Education should also be integrated with rural development. This should be done by the allocation of resources, cooperative education, and coordinating the activities of institutions with the development of their localities.

The NCEOP report further emphasized the need to relate education to employment opportunities and to the requirements of rural development. It also promoted the view that education should systematically teach youth the values of society.

A major policy change in Kenya's education system is to be found in the Report of the Presidential Working Party on the Second University (1981). Apart from recommendations on the establishment of the second university, it recommended a restructuring of the system from $7 + (4 + 2) + 3$ to $8 + 4 + 4$. This structural change was implemented in 1985. There has not been a major change in the national goals of education as a

result of the new changes in the structure. The most striking change in terms of goals has occurred in the curriculum which is technically and practically oriented.

2. Structure and Size of Education Effort

Formal education was introduced to the people of Kenya by missionaries as a strategy for evangelizing the indigenous population. The missionaries, therefore, dominated the provision and administration of education throughout the colonial era. The content of education in the colonial period was designed to serve colonial and minority interests. The educational system was racially segregated with gross imbalances in educational opportunities. Africans, who formed the majority of the population, had the least representation in secondary and higher education. For example, in 1962, one year before independence, out of 25,902 pupils attending secondary school, only 8,033 were Africans, a mere 31 percent. The restrictive nature of the colonial system of education was also felt in curricula. They were infused with British content, practice, and ethos. Secondary-school examinations were set and marked in Cambridge in the United Kingdom. There was very little technical or agricultural content in the curriculum. At independence, the government took many steps to form a secular system of education appropriate to the needs of Africans.

At the beginning of the 1980s, the general structure of formal education consisted of three levels: basic education (preschool and primary school); secondary education; and tertiary education (mainly university). There were two ministries of education: the Ministry of Basic Education, which is in charge of all basic education and the training programmes that go with it, and the Ministry of Higher Education, which is responsible for secondary education, tertiary education, and related training programmes. In 1983 the two Ministries were merged to form one Ministry of Education, Science and Technology.

Preschool education has been officially included in the educational system since 1979. Prior to that, it existed on a voluntary basis only.

Free and universal primary education has eight grades, at the end of which the pupils sit the Kenya Certificate of Primary Education (KCPE) examination, an entrance examination for secondary schools. Physical facilities, including classrooms and teachers' houses, have always been provided by the communities and will continue to be so. The government provides teachers and equipment and supervises the administration.

Enrolment in primary schools rose from 891,533 in 1963 to over 5 million pupils in 1985. There was a sharp rise in 1974, which reflected the abolition of school fees for grades 1 to 4.

Secondary education in Kenya is a six-year programme. However, in the fourth year of secondary school the students sit another examination, the Kenya Certificate of Education (KCE), which is used to select

students for the Advanced-(A') level course, the second stage of secondary education. In the new 8 + 4 + 4 structure, A' level classes will be abolished by 1989.

In 1979, there were 557 government-maintained secondary schools, 64 assisted secondary schools (initially established and managed by the communities, but with government providing some of the teachers and some development funds), 996 *Harambee* (self-help) secondary schools (established and managed solely by the communities), and 259 private secondary schools (established and managed by individuals and church organizations). The total number of students enrolled in secondary schools rose from 31,000 in 1963 to over 600,000 in 1985.

All secondary schools, in whatever category, must be registered with the Ministry of Education, Science and Technology and offer approved curricula. The ministry also insists on the maintenance of basic standards.

University education is provided at three public universities: Nairobi, Moi, and Kenyatta. Enrolments at the University of Nairobi and Kenyatta University rose from 1,279 in 1970 to over 8,000 students in 1985. Entrants for 1979 were 2,611 representing only 24 percent of the 11,032 candidates who sat for A' levels during the previous year. This proportion has not changed significantly despite the creation of new universities.

In addition to the existing national universities, there are two private university institutions operating in Kenya. The Seventh Day Adventist College at Baraton in Nandi District has been established to serve Eastern Africa and will be expanded to accommodate a maximum of 2,000 students. It is affiliated to Andrews University in the United States. The United States International University was established in 1970 in Nairobi and now offers tuition on a full- or part-time basis to about 300 students. Its courses are primarily oriented to business studies. The Daystar University College has recently been established as a private institution of higher learning offering degree programmes.

Kenya has a large number of students in universities abroad. In North America alone, there were over 4,000 students in 1984. It is estimated that there are more Kenyans studying for degrees abroad than are registered locally. Most of these students are in India.

An interesting development in the formal education sector has been in the area of technical education. In 1971, there were eight secondary vocational schools and four secondary technical schools. A total of 15 technical schools, with a projected enrolment of 8,424, were planned for the end of 1983. In addition, a number of schools have been offering business education, principles of accounts, commerce, industrial education, and secretarial training. As a result of the new 8 + 4 + 4 structure, the technical schools have been abolished.

Kenya has two national polytechnics, one at Nairobi and another at Mombasa. A third one has been proposed. Their purpose is to train middle and higher level technical personnel to meet the growing demand for skilled craftspeople and technicians for public and

private sectors of the economy. There are about 5,000 students being trained in the two polytechnics. In addition to the two polytechnics, there are 10 institutes of technology operated on a self-help basis. The idea of building *Harambee* institutes of technology started in 1972 and is further evidence of community awareness of the country's educational requirements. The institutes offer craft and technician courses in mechanical engineering, building, agriculture, electrical engineering, motor mechanics, food processing, fashion and design, irrigation, and business studies. The number of students enrolled in these institutes rose steadily from 1,272 in 1979 to 2,048 in 1981.

The nonformal educational programmes in Kenya can be divided into three main categories. First, there are supplementary programmes for young people still in formal schools. These include Young Farmers' clubs and 4K clubs. Young Farmers' clubs are formed largely in secondary schools and each club is affiliated to the Agricultural Society of Kenya. Their aim is to encourage youth to take up agriculture after leaving school. 4K clubs are led by voluntary workers. Each has 26–32 members. The primary objective of the clubs is the agricultural education of young people in their homes; however, the majority are attached to primary schools or youth centres.

Second, follow-up programmes for school leavers and dropouts include village polytechnics, the National Youth Service, and various projects sponsored by the University of Nairobi College of Adult and Distance Education. Village polytechnics are for school dropouts. They are organized by the national village-polytechnic central committee, local sponsors, and local management committees. The programme of instruction is based on local needs and aims to achieve local economic self-reliance. The aim is to train rural youths for local employment or self-employment.

The National Youth Service is a two-year voluntary work and education programme for Kenyans between 16 and 30 years of age. The objectives are to place unemployed youth into an environment that will inculcate good citizenship and provide an opportunity to contribute to the social and economic development of the country; to promote national unity; to help alleviate unemployment hardships among young persons; and to contribute to the economy of the country by helping to conserve, rehabilitate, and develop Kenya's natural resources.

The University of Nairobi College of Adult and Distance Education is the main sponsor of extramural studies and includes a correspondence-course unit, the Adult Studies Centre, and the Adult Education Training Unit. It plays the role of a servicing agency, which cooperates with and assists other organizations engaged in adult education and fills in gaps in their activities.

Third, alternative programmes for Kenyans with no formal education include programmes of the Adult Education Division and the youth centres of the Ministry of Culture and Social Services. These offer literacy

courses, vocational training, and courses to prepare adults for various national examinations.

Organizations which sponsor nonformal supplementary educational programmes include the Young Men's Christian Association (YMCA), the Young Women's Christian Association (YWCA), Boy Scouts, Girl Guides, the St John's Ambulance corps, the Kenya Red Cross Society, the Outward Bound Trust, the Kenya Voluntary Development Association, the World Assembly of Youth, Young Farmers' and 4K clubs, the World Council of Churches, and the Motor Mart Trust.

3. Administrative and Supervisory Structure and Operation

The Ministry of Education, Science and Technology is headed by a minister, assisted by assistant ministers. The minister carries ultimate responsibility for all political and policy matters on behalf of the government. Below the minister is the permanent secretary, who is the administrative head of the ministry and top adviser to the minister on policy matters. He is also the accounting officer. The permanent secretary is supported by a team of senior officers in charge of different departments. The ministry has a director of education, who looks after professional matters, and a chief inspector of schools.

The Ministry has a provincial education officer in each province and a district education officer in each district. The inspectorate is also decentralized. There are senior subject inspectors at the headquarters while in the provinces the senior provincial inspectors are supported by teams of subject inspectors. District education boards have been established to help with the planning and development of education in liaison with district development committees.

For day-to-day management of educational institutions, boards of governors have been established for secondary schools, teacher-training colleges, and the national polytechnics. The head of each institution is the secretary to the respective board of governors and carries out the administration of his institution on behalf of the board. The universities are managed by the university councils. Primary schools are managed by school committees appointed from the local communities. In order to enable parents to participate in the management of their children's education, each school, primary and secondary, is now required to have a parents' association. The purpose of parents' associations is to plan and promote the development of the schools.

4. Finance

Kenya's education is financed from various sources, depending on the type of educational institution. Government-maintained institutions are financed out of funds voted by parliament each year. Secondary schools submit annual estimates, including information on the

amount of fees to be collected from parents. The grants section of the ministry then awards grants, less the amount of fees. The fees are retained by the schools as appropriations-in-aid.

Harambee secondary schools and institutes of technology are financed by the communities, who organize fund-raising meetings. They also charge fees, and normally their fees are higher than those of government-maintained institutions. The government has come to the aid of some of these institutions by paying salaries of all or some of their teachers and, at times, by providing development funds.

Private institutions are run either by church organizations or by individuals. Churches raise money to subsidize education in their schools as well as charging moderate fees. Some schools are profit making and tend to charge large fees.

Primary schools are financed by the government through the district education boards, which prepare their budgets for equipment and submit them to the Ministry of Education, Science and Technology. Primary schools do not charge fees. However, the development of physical facilities, including teachers' houses, remains the responsibility of the communities through parents' associations and school committees.

Parents provide school buildings and teachers' houses for preprimary education. The government now trains preprimary teachers and pays their salaries.

Tuition for university education is paid by the government. All other costs are the responsibility of the students. The government has organized loan facilities for those students who need to borrow money in order to pursue their higher education. Salaries for all university staff and other university expenses are paid by the government. A University Grants Committee advises the government on how to finance university education.

Over 30 percent of the total government budget is spent on education. Teachers' salaries account for 90 percent of total expenditure in primary education, 70 percent in secondary, and 60 percent at university level (Fine 1974).

Table 1 presents the figures for educational expenditure as a proportion of total government expenditure for selected years from 1963 to 1980.

5. Teacher Supply and Training

At the primary-school level, the number of teachers increased from 22,722 in 1963 to 102,489 in 1980 while the size of the secondary teaching force went up from 1,602 in 1963 to 15,916 in 1980. In 1975, the education sector employed a total of 116,211 people, mostly teachers. This constituted 14 percent of all wage employment in the modern sector for that year.

Prior to independence, most trainees for African schools were primary-school leavers who received no further training. In contrast, European and Asian school teachers were either university graduates or had secondary education. Following independence, great efforts were made to increase the number of trained Kenyan teachers. Training teachers, replacing untrained teachers, and upgrading the credentials of primary-school teachers have been difficult tasks. By 1976, most of the untrained teachers had completed four or six years of secondary schooling. In terms of geographical allocation, urban areas have attracted a proportionately larger share of trained teachers. In 1976, 99 percent of primary teachers in Mombasa were trained, but in many rural districts at least 30 percent of teachers were untrained. By 1980, over 70 percent were trained and 99 percent were Kenyan. To tackle the problem of untrained teachers, government increased enrolment in all teachers' colleges. This will at least help in the quantitative supply of teachers but possibly at the expense of quality.

Between 1964 and 1976, the secondary-school teaching force increased six times. The proportion of secondary teachers who were Kenyans rose more slowly than in the case of primary-school teachers. By 1973, 58 percent were Kenyans and by 1976, 73 percent.

The proportion of trained graduates in aided secondary schools rose from 66 percent in 1964 to 86 percent in 1976, but in maintained schools the proportion declined from 44 to 15 percent. As a result of Kenyanization and rapid expansion in the number of secondary schools, the teaching force is relatively young and has limited experience. There is also a high wastage rate particularly among university-graduate teachers. In 1970, for example, 35 percent of teachers had dropped

Table 1
Education expenditure in relation to total expenditure, 1963-64 to 1979-80 (thousands of Kenyan pounds)^a

Year	Recurrent			Development			Total expenditure		
	Total	Education	Share of education (%)	Total	Education	Share of education (%)	Total	Education	Share of education (%)
1963-64	47,675	6,961	14.6	14,084	426	3.0	61,759	7,387	11.9
1966-67	55,116	7,161	13.0	16,158	763	4.7	71,274	7,924	11.1
1970-71	85,729	26,023	30.3	45,979	2,381	5.2	131,708	28,404	21.5
1974-75	167,354	58,490	34.9	91,145	5,313	5.8	258,499	63,803	24.7
1979-80	351,311	122,583	34.9	236,098	11,452	4.9	587,409	134,035	22.8

^a Source: Ministry of Economic Planning and Development

out of the profession within a period of five years. A census of secondary-school teachers conducted in 1974 indicated that most Kenyan graduate teachers were engaged in teaching English, history, geography, and mathematics. There were, however, substantial shortages of graduate teachers in mathematics, science, and languages. There are sufficient Kenyan graduates for biology, English, and French. But Kenya has continued to recruit expatriate graduate teachers for maths, physics, and chemistry.

Certification for teaching in Kenya is a point of much discussion in both education and lay circles. At the beginning of the 1980s, there were nine certification levels. Candidates recruited for training at the lowest level will have had at least two years of secondary-school education and have a General Certificate of Education (GCE) Ordinary- (O') level pass. The highest level primary-school teachers are those who have passed their O'level examinations with grades of at least Division II.

The junior forms of secondary school are taught by teachers who have either an O'level or A'level and completed a Diploma-in-education Course either at one of the six secondary-school teachers' colleges or at the university. The higher forms are taught by teachers who are university graduates, the majority of whom have professional training.

In order to ensure that those who are employed are competent and observe professional standards, the Teachers Service Commission was established in 1967.

6. Curriculum Development and Teaching Methodology

In Kenya, the main organization entrusted with the task of curriculum development is the Kenya Institute of Education (KIE). The institute prepares new and relevant curriculum materials, revises existing course content, coordinates programmes in teacher education, and initiates and promotes innovative practices to improve the quality of education in Kenya.

To facilitate the process of curriculum development, the institute has set up a system of panels. Panels include teachers, educational administrators, teacher educators, school inspectors, university professors, trade unionists, and representatives of various religious and voluntary organizations. There are 65 panels with a membership of 1,500 people. Any curriculum change must be considered and approved by the panels, beginning with subject panels, course panels, and the academic board of the institute before final approval by the relevant directors of education.

Curricula in Kenya have gone through three, not necessarily disjoint, stages. The first stage was that of adoption, where curriculum was imported wholesale from the United Kingdom. The content of this curriculum was often irrelevant to the needs of the majority of Kenyan children and textbooks were alien. The

second stage was that of adaptation, which took place at two levels: a low-level strategy, in which only the most obvious changes were made from the previous curriculum, such as localization of place names; and a high-level strategy, in which more basic questions were asked of the original material (e.g., Does the syllabus coverage need changing? Is the style of the textbooks appropriate? Are the classroom methods implied in the curriculum suitable for Kenyan schools?). The explosion in student population in the late 1960s, and the problems this created, led to discontent with the then existing curriculum. Politicians started to call for relevant curricula. This led to the third stage, the production of curricula that will meet the needs and aspirations of the Kenyan people. To a certain extent, this is what the curriculum in the 8 + 4 + 4 system has attempted to do. There is a deliberate attempt to vocationalize the curriculum at both primary and secondary levels.

The success of the new curriculum will depend on many factors, one of which is the instructional approach used by the teachers. Generally speaking, teaching methods in Kenyan schools have not changed much. They emphasize the "telling" approach at the expense of the "dialogical" approach. Some of the reasons for this are overcrowded classrooms, unqualified teachers, and the pressure of external examinations.

7. Examinations, Promotion, and Certification

Kenya operates a rigid system of external examinations, which are taken at the end of primary-school education (grade 8), at the end of form IV (grade 11), and at the end of form VI (grade 13) respectively.

Promotion from one grade to the next in primary school is automatic. At the end of grade 8, a national examination, the Kenya Certificate of Primary Education (KCPE), is taken. The examination is mainly a selection tool for secondary education. Competition for secondary-school places is so high that only 30 percent of KCPE candidates are admitted to secondary school. Once admitted, promotion to higher classes is automatic up to form IV. Some of the students, especially those in the *Harambee* schools and in the private schools, may choose to take the Kenya Junior Secondary Examination (KJSE) at the end of the second year of secondary school. This does not stop them from proceeding to the third and fourth years of the secondary school. At the end of form IV, all the students take the Kenya Certificate of Education (KCE) examination (equivalent to the General Certificate of Education at O'level in the United Kingdom). The KCE is used to select students for Form V to prepare for A'levels at the end of form VI. The KCE is also used to channel those who have completed form IV into various training programmes. In 1989, the last A'level examinations will be offered in Kenya. Selection for university entrance will thereafter be based on the KCE examination. This is likely to create major problems for university entry. The universities

will be expected to select about 5,000 students out of 100,000 applicants.

8. Educational Research

In Kenya, the main sources of educational research and information are the Kenya Institute of Education (KIE), the Institute of Development Studies (IDS), and the Bureau of Educational Research (BER). Research projects covered in these institutions range from preschool education to nonformal education. A study by Eshiwani (1981) reviewed research in Kenya between 1963 and 1980 and categorized the major issues tackled. These were: administration and educational development, access to education, education and economic development, student evaluation, teaching, communications, and political education and social policies. Of these, teaching accounted for 24 percent of all studies, political education and social policies for 23 percent, and student evaluation for 19 percent. These three together account for 66 percent of all educational research in Kenya. Other areas did not receive much attention.

Major gaps in research were identified as: relevance of the educational system; education, work, and employment; wastage and repetition; education in the pastoral areas; language of schooling; selection and allocation; education and women; literacy; the socio-cultural and political purposes of education; artistic education; special education; self-help in Kenyan education; and higher education.

9. Major Problems

In looking at the development of education in Kenya since independence, a rosy picture can be painted of what the country has done and continues to do in the field of education. Much has been achieved. Kenya has, however, met with problems in the implementation of its educational programmes. Some of these problems were inherited from the colonial system; others have arisen in the process of educational development in the postcolonial period and are likely to persist into the distant future. They include:

- (a) Expanding educational facilities, despite a low economic growth rate.
- (b) Enrolling an ever-increasing population in school (the annual population growth rate is 3.4 percent).
- (c) Ensuring that school leavers are employed. In 1984 it was estimated that half a million school leavers from different levels of education were seeking employment. The employment section could provide a maximum of 50,000 jobs.
- (d) Completely revising the curriculum for primary and secondary schools.

- (e) Reducing the number of "untrained" teachers in schools and overcoming the problems of teacher shortage and teacher wastage.
- (f) Using local languages instead of English as the media of instruction, especially in the early grades of primary school.

Kenya's educational system in the 1980s and 1990s will be determined, to a large extent, by national goals, personnel and other socioeconomic requirements, population trends and projections, continued concern for quality, the country's place in the global society, and of course, the financial resources likely to be available for the education service.

In Kenya, education until the end of the century can be considered in terms of present projects and new planned projects. Present projects include:

- (a) Expansion of education: with nearly 60 percent of the population under 20 years of age, the demand for education will continue to increase. Given its commitment to provide education to all Kenyans the government will continue its efforts to expand educational facilities. Parents will also continue to be called upon to voluntarily construct educational buildings, including teachers' houses, and to provide the necessary furniture.
- (b) Teacher education: the country will continue to train teachers both to replace untrained teachers and to be absorbed in the expanding programme. Preservice and inservice courses and other short courses are being contemplated. New teacher-education colleges will be built to supply primary and secondary education.
- (c) Special education: education for the handicapped will be intensified so that as many handicapped children as possible benefit from this service. To achieve this, appropriate physical facilities for the disabled and training facilities and opportunities for teachers of special education must be provided.
- (d) Literacy campaign: in the 1970s Kenya set itself a time period in which to eradicate illiteracy. A five-year campaign was mounted, but illiteracy still exists. More efforts will be made to eradicate illiteracy.
- (e) Education and productive work: Kenya is trying to remodel its curricula in order to offer education that is aimed at instilling practical skills. There are programmes and schools for technical education, home economics, principles of agriculture, business, typing/shorthand and office practice, and accountancy. Such practical-oriented courses are becoming widespread. Efforts will be made to give interaction between education and productive work a new impetus.

Planned projects include:

- (a) Correspondence education: the College of Adult Distance Education and the School Radio Programmes of the Kenya Institute of Education offer education through correspondence and radio broadcasts respectively. It is hoped that correspondence courses will be introduced for those who wish to pursue higher education up to degree level. This will be a welcome move for the many unqualified persons who cannot gain entrance to the university because of lack of places.
- (b) University education and technical training: it is planned to establish more institutes of higher learning in an effort to expand high-level personnel training and to facilitate the diversification of courses offered at university level.
- (c) Intra-African cooperation: given that the funding for education must be reduced, especially for high-level training, it is hoped that intra-African cooperation will be cultivated. Programmes such as the African Network of Scientific and Technological Institutions (ANSTI), the proposed African Institute for Higher Technical Training to be built at Kahawa near Nairobi, and conventions such as the recognition of studies in higher education, and of certificates awarded, can become a lasting foundation for intra-African cooperation.

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Korea, Democratic People's Republic of

Hong Sah Myung

The Korean peninsula, contiguous with the two continental powers of China and the Soviet Union and adjacent to oceanic Japan, has long served as a bridge linking the cultures of the continent and Japan. Over five milleniums, the people living in the peninsula have shared the same culture and language and formed one of the most homogeneous peoples in the world.

Korea, from the closing days of the nineteenth century, became an arena where major foreign powers competed for influence in north Asia. The Sino-Japanese War in 1895 and the Russo-Japanese War of 1905 ended with Japanese victories, paving the way to Japan's annexation of Korea in 1910.

The conclusion of the Second World War in August, 1945 liberated Korea from three decades of colonial rule. The Soviet and United States troops occupied the Korean peninsula, with a temporary division of the country along the 38th parallel to accept the surrender of Japanese forces. No-one predicted that this temporary division would become a permanent border that divides the nation into two separate countries.

Following a brief interim period after liberation in 1945, the North Korean Provisional People's Committee was established in February, 1946 under the auspices of the communists supported by the Soviet occupants, with Kim Il Sung elected as chairman. A series of political, economic, and social reforms were made to provide the foundation for the communist control of the northern half. Immediately after the establishment on August 15, 1948 of the Republic of Korea in the south, the communists in the north established the Democratic People's Republic of Korea, on September 8, 1948, electing Kim Il Sung as premier to head the government.

North Korea is contiguous with Manchuria and Siberia and occupies an area of 122,333 square kilometres (316,840 square miles). The land is characterized by mountains and rugged terrains which account for 85 percent of the total area. The country is without extensive arable lands but has mineral resources in abundance, which have been the prime mover for the development of heavy industries.

In 1980, the population was estimated at 19,295,000. In the period 1970–76, the population increased by 2.5 percent (Yun Hap Yun Gam 1981).

Feudalism, based on Confucianism, was brought to an end by the communization of North Korea, and this gave rise to the dominance of the proletariat as is the case in other socialist countries. With the passage of time, however, this dominant class has been divided up into hierarchical subclasses—such as leaders of the Communist Party, revolutionary elites, and laborers. The classification of the proletariat is reflected in the educational system in the form of multichanneled school ladders.

However, the most profound impact of communization is found in the political and economic systems. In politics, the new rule was firmly established, and it, in turn, found its manifestation in "thought education" which is given heavy weight in the curricula at all levels. In the economy, abolishment of private ownership, communization of productive means, collectivization of farms, and industrial development were pursued under a planned economy. Economic efficiency and productivity have demanded the extension of the formal educational system, with the consequent advent of the "factory college." Adult education is primarily concerned with the training of productive skills.

Another important result of communization is the liberation of women, whereby women were given equal opportunity in education and participation in public life. It should be noted that the country has been transformed in that it has renounced Confucian values, the use of the Chinese script, and traditional religion.

1. Educational Background

From a historical perspective, the development of education in the Democratic People's Republic of Korea may be examined in three periods—the foundation-building period, the rehabilitation period, and the consolidation period, with each period consisting of distinctive stages reflecting specific political and economic events.

1.1 Foundation-building Period (August, 1945–53)

Immediately after liberation in 1945, the North Korean Provisional People's Committee began the communization of the educational system. The first educational policy enacted under this scheme was "provisional measures in education," aimed at the strengthening of nationalism. This policy placed emphasis on the teaching of the Korean alphabet, *Hangul*, and the history of Korea which was reinterpreted so as to show communism as an ideal way of life. Subsequently, youngsters were organized into the North Korea League of the Democratic Youth which later served as the vanguard of the Communist Party in schools as well as in factories, farms, business enterprises, and elsewhere (Hun Ryu 1966).

The second policy was incorporated into the so-called

"20-item political platform" in 1946 to cope with urgent educational problems in the wake of abrupt Japanese repatriation. It sought to enforce universal compulsory education; to bring all levels of school under the control of the state; and to establish various special schools to meet the increasing personnel requirement in industry. The most significant event was the establishment of the Kim Il Sung University in Pyongyang, the sole university in North Korea. Thought education was further intensified with a view to using individual aspirations to aid in nationbuilding.

In 1949, a new school system was adopted, which consisted of 5 years of people's school, 3 years of lower-middle school, 3 years of upper-middle school, and 4 years of college or university. In addition to this basic system, there were technical and normal schools equivalent in status to the upper-middle school (Jong Chul Kim 1979).

The second stage of this period coincides with the Korean War from June, 1950 to July, 1953. With the eruption of the war in 1950, all educational resources were marshalled to serve military purposes; educational policies and programs were geared to the war effort, schools were turned into military training camps, and the majority of teachers and senior students were drafted into military service. As the war was nearing its end, policy makers foresaw an acute need for high-level personnel to supply the forthcoming rehabilitation programs (Kwang Suk Choi 1965). Hence, an open-door policy was adopted, and some 2,000 students were sent to the Soviet Union and Eastern European countries for advanced studies.

In July, 1953—just prior to the armistice—the school system underwent important changes: the five-year people's school was reduced to a four-year course, and two- or three-year preparatory courses were established within colleges and universities to provide a new avenue to college education for youths who were unable to finish secondary education due to the war.

1.2 Rehabilitation Period (1953–57)

The three-year war caused a low level of economic activity, and the rehabilitation of industrial and school facilities was given top priority under the three-year economic plan. During this period, a cultural revolution was initiated under what was known as the Chullima Movement, which legitimately involved teachers and cultural organizations in rehabilitation and productive works. Rehabilitation programs required hard labor from students and teachers, making it virtually impossible to run schools on a regular basis. The programs were considered useful learning experiences in the "congruence between theory and practice." Participation in reconstruction work took the form of extracurricular activities which find a substantial place in even the 1980s curricula. Greater concern for the relation between theory and practice created a climate conducive to the development of technical education in later years. The following rehabilitation programs were promoted:

Each member of a special city/province board of education must enjoy a good reputation within the regional community and have had a teaching career of at least two years. Of the seven members who make up a board of education, five are appointed, while the remaining two are ex officio positions, respectively filled by the special city mayor or provincial governor and the local education superintendent. The board is chaired by the city mayor or provincial governor. The board members are appointed for a term of four years, but each may serve for not more than two consecutive terms. The education superintendent of each special city/province is elected by the relevant board of education, and appointed by the president on the recommendation of the minister of education.

The education superintendent of each special city/province serves for a term of four years, which is renewable. The basic qualifications of each education superintendent are that he should enjoy a good reputation within the local community, have had a distinguished career, and possess specialist knowledge in the area of education. Most education superintendents have had long careers in the field of education, and some of them are ex-professors or, occasionally, former ranking civil servants.

The total cost of public education in 1979 was US\$2.4 billion which represented 3 percent of the gross national product (GNP) and 18.9 percent of the total government budget. Only 35 percent of all educational costs come from government sources. By school level, elementary education receives the highest proportion, leaving a minimal amount for higher education. As free, compulsory education is to be extended from six to nine years of schooling, the following measures have been devised to secure additional funds: (a) allocating a fixed ratio of GNP to education; (b) creating a special tax for education; (c) reviving the law stipulating the ratio of local-education finance that is to come from the internal tax; and (d) increasing the educational responsibility of industry, especially for financing vocational education.

4. Teacher Education

There are two types of teacher-education institutions in Korea: the two-year teachers' college (grades 13-14) for training elementary-school teachers and the four-year college of education for training secondary-school teachers. Whereas all teachers' colleges are national, colleges of education are either national or private. The main difference between nationally and privately endowed colleges of education is that the former offer various exemptions apart from charging relatively low tuition fees; in return, however, graduates of a national teachers' college or college of education are obligated to teach at designated schools for a prescribed period of time.

Apart from the colleges of education, some of the ordinary four-year colleges offer specialized teachers' courses, completion of which entitles a person to a

licence to teach in middle or high schools. This expedient is in effect because the existing number of colleges of education cannot by themselves supply the required number of secondary-school teachers.

Teachers' licences or certificates come in three classes or categories, i.e., kindergarten, elementary school, and secondary school. Within each category, teachers' licences are graded into: apprentice teacher, regular teacher II, regular teacher I, counseling teacher, librarian, laboratory instructor, and nurse. School principals and superintendents are issued special administrative licences qualifying them for their positions. Regular teacher II licences are issued to graduates of teachers' colleges, colleges of education, and teachers' courses at ordinary four-year colleges, and also to graduates of nursing or preschool teacher courses at junior or senior colleges, and are permanent. Eligible for regular teacher I licences are those holders of regular teacher II licences who have completed the prescribed amount of on-the-job training (240 hours) in a minimum three years' teaching career. Apprentice-teacher licences are issued to those who have passed teachers' qualification examinations or the graduates of government-designed four-year courses in engineering, fisheries, merchant marine, and agriculture.

5. Curriculum Development

In the 1970s, the nation's planners initiated a variety of reforms that included significant changes in curriculum and instructional techniques.

The main thrust has been to develop an instructional system which draws not only on classroom lectures and the reading of textbooks but also on multiple learning materials and television and radio programmes. The project has consisted of two interrelated aspects. The first has been a search for new instructional techniques, a search that has involved devising models of instruction, then developing suitable teaching/learning materials and trying them out in practical situations. The second has been the creation of a new instructional system that proceeds through a cycle of five stages which the teacher uses in carrying out study units or lessons. The stages are: (a) planning, following the directions offered in a teacher's guidebook; (b) diagnosing students' strengths and weaknesses by means of test items in a workbook; (c) guiding student learning by use of workbooks and television or radio programmes; (d) extending learning through the use of formative test items in student workbooks and through other techniques described in the teacher's guidebook; and (e) evaluating the results of the students' learning as reflected in summative tests.

6. Promotion and Entrance Examinations

Within levels of education, promotion is more or less automatic. The entrance to university and other tertiary education has been dealt with above (Sect. 2). There

was a highly competitive examination for entrance to middle school. This was abolished at the beginning of the 1970s.

The decision to abolish entrance examinations for middle schools came about as an offshoot of the government policy to equalize the levels of individual middle schools. This policy, in turn, was dictated by the need to relieve primary-school pupils, particularly those in graduating classes, from the excessive burden of preparing for the highly competitive entrance examinations for "first class" middle schools. This would, it was thought, enable primary-school pupils to devote more time to balanced development of physical and mental faculties, and at the same time protect them from discrimination between "better" and "inferior" schools. This measure in effect liberated school children from the "examination hell" and normalized primary-school administration. This policy was also in line with the global trend of assuring equal opportunity to everyone by demolishing all barriers of discrimination.

Under the present system, neither applicants nor their parents are given a choice in deciding which middle schools to enter. At the same time it has abolished all distinctions between superior and inferior schools, thus doing away with the need for such a choice. This measure, carried out against considerable popular resistance, has produced two opposite sets of results. It was welcomed by the so-called "inferior" middle schools which could formerly expect only mediocre applicants, but received with opprobrium by the elitist schools to which formerly used to cull the pick of the crop. No such distinctions exist today, and each middle school in the system is theoretically as good (or as bad) as any other. For some of the "better" private middle schools, the measure caused financial losses as they could no longer advertise their better-than-average teaching staff to attract a better crop of applicants—and generous financial contributions from parents.

By 1982, most middle schools had forfeited many of their former marks of distinction. But it cannot be denied that all primary-school graduates now enjoy the benefit of "equal accessibility" to all middle schools within their respective school zones.

7. Educational Research

Apart from research carried out at universities and colleges the two main research bodies are the Korean Educational Development Institute (KEDI), founded

in 1972, and the Korean Institute for Educational Research and Training (KIERT), founded in 1982. The Korean Educational Development Institute has a staff of over 350 specialists and conducts studies of educational objectives and content, instructional methods, upgrading the quality of learning, developing instructional radio and television, devising and implementing a nationwide testing scheme, and population education. The Korean Institute for Educational Research and Training is in its infancy but is beginning testing programmes and among other things is involved in the Science Achievement Study of the International Association for the Evaluation of Educational Achievement (IEA).

8. Major Problems

The major tasks of the 1980s and 1990s will include: (a) increasing investment in technical education, involving more cooperation between schools and industry; (b) reducing the urban/rural gap in achievement; and (c) placing more emphasis on social and moral education.

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Kuwait

A. Bustan

The State of Kuwait is an independent Moslem Arab country occupying the north corner of the Arabian Gulf. It is bound on the east by the Arabian Gulf, in the

southwest by the Kingdom of Saudi Arabia, and in the north and the west by the Republic of Iraq. This location makes Kuwait the gateway to the Arab peninsula.

(a) establishment of people's colleges designed to improve the professional capability of policy makers and bureaucratic elite in the field of economics and management; (b) establishment of social-education institutions, including evening and correspondence colleges; and (c) establishment of teachers' colleges and inservice training centers.

As rehabilitation works proceeded, the foundations were laid for the enforcement of compulsory education which had long been overdue because of the war. In April, 1956, four-year elementary education became compulsory.

1.3 Consolidation Period (since 1958)

Contemporary to the first five-year development plan was an extension of compulsory education vis-à-vis the renewal of rehabilitation efforts to consolidate gains made in the preceding years and to set the scene for a massive reform of the educational system.

The significant development during this period was the enforcement of the seven-year compulsory-education program beginning in November, 1958. The extension of compulsory education was viewed as the initial step toward the initiation of compulsory technical education.

After 1961, there was a marked expansion of education at all levels of school. Because of the increasing need for skilled workers, efforts were made to effect the quantitative expansion of education with particular emphasis on technical education. The quantitative growth of education in this period was extraordinary, as Table 1 illustrates.

In November, 1966, the Supreme People's Assembly enacted the enforcement of nine-year compulsory technical education, which began in the 1967-68 academic year. At the same time, the school system was partially changed to provide for the extension of the three-year middle-school course to five years and the discontinuation of the two-year technical school.

Ten-year compulsory education was promulgated in July, 1982, with implementation beginning on September 1, 1982. But the actual provision of ten-year compulsory education was implemented on an incremental basis beginning with priority areas. Ten-year compulsory education meant, in effect, one year of preschool education added to the existing nine-year

education. Hence, the foundations were laid for the implementation of mass education.

2. Goals of Education

The philosophy of education in North Korea is based on communist ideals and has a great deal in common with other socialist countries. Therefore, education exists for young people to develop character, individual qualities, and attitudes in conformity with the demands of communist morality. The goals of education are essentially predicated on three elements: the interpretation of history in terms of dialectical materialism, zeal for radical reform, and absolute loyalty to the state. Those who possess these qualities naturally become "a red warrior armed with the communist ideology."

Another underpinning of educational philosophy is economic efficiency and productivity. This economic determinism is not only the most fundamental principle underlying the communist interpretation of history and society but the basic principle that has provided the essential characteristics of education: participation of students in productive activities, greater emphasis on technical and vocational education, and the establishment of part-time schools for working youths.

The basic policies for the period of the seven-year plan (1961-67), as given by Kim Il Sung, exemplify the goals of education:

- youngsters must be brought up to be persons loyal to the Communist Party and the revolution and all-round in development;
- education must be fittingly combined with productive labor;
- technical education must be emphasized;
- opportunities for the training of technical personnel at the postsecondary level must be enlarged by expanding the factory colleges;
- adult education must be strengthened so that everyone acquires more than one technical skill;
- literature and the arts must play an important role in educating the people with particular reference to the course of the Chullima Movement; and

Table 1
Enrollment 1945-81

Year	People's schools		Middle schools		Colleges and universities	
	Schools	Students (thousands)	Schools	Students (thousands)	Schools	Students (thousands)
1945	1,431	1,183	674	311	4	3
1960	4,145	957	3,166	1,186	76	97
1970	4,470	1,590	4,820	1,811	140	95
1981	8,700	1,748	4,100	2,398	170	256

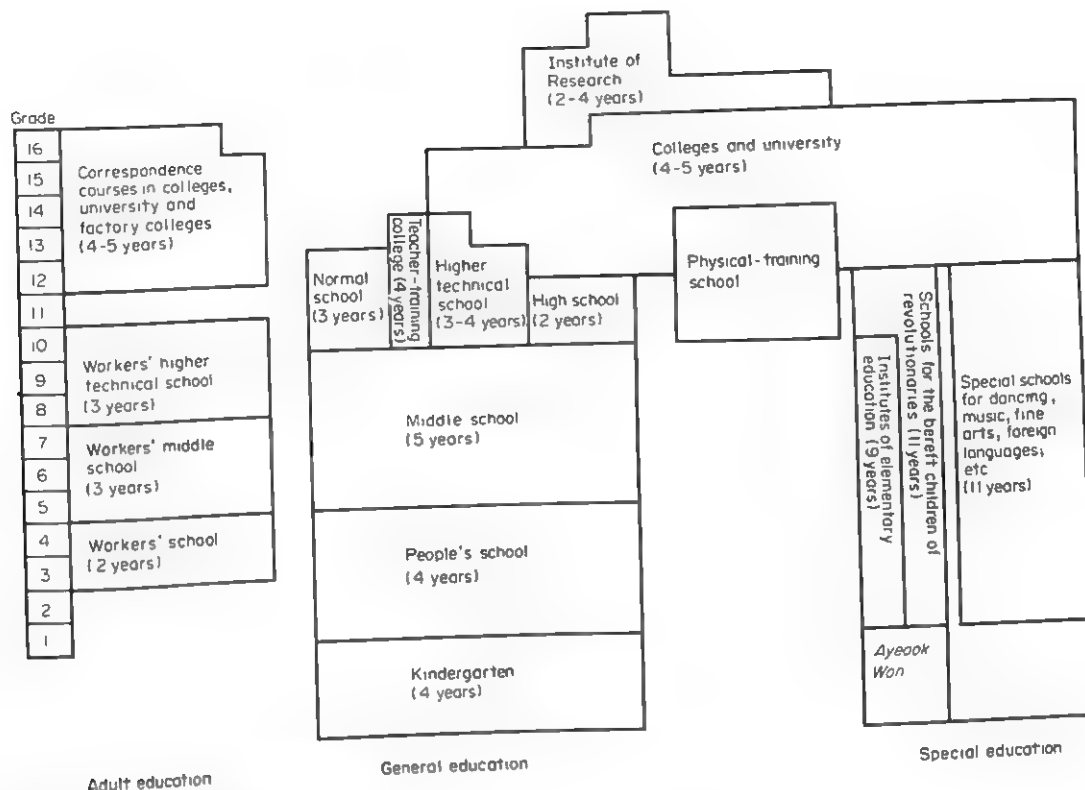


Figure 1
Structure of the educational system

- (g) the Communist Party must improve its guidance and supervision in all spheres to assure successful implementation of the Party's policies.

3. Structure of the Educational System

The educational ladder (see Fig. 1) consists of three streams: general education, special education, and adult education. It should be noted that adult education for education. It should be noted that adult education for working students and adults has been so much formalized that it is treated as part of the formal education system. As mentioned earlier, political preeminence and economic determinism have been the major factors affecting changes in education. The present multistreams of the educational ladder are the result of a series of changes designed to keep the educational system responsive to new needs arising from political aims and economic efficiency. Apart from these, the educational system has been designed so as to provide for centralized control by the state, secularism in education, equality of educational opportunity for male and female students, and close linkage between school and society.

General education is composed of a four-year people's school, a five-year middle school, a two-year high school, and a four- to five-year college or university, adding up to a total of 15 or 16 years of schooling. The first nine years of elementary and middle-school

education between 7 and 15 years of age, is compulsory. The educational ladder of the upper-middle-school level is diversified.

For the training of teachers, there are three-year *Kodung Sabum Hakyo* (normal schools) for training kindergarten teachers as well as four-year *Sabum Daihak* (colleges of education) for secondary teachers. In addition to the two-year high school of general education, there are the three- to four-year higher technical high schools at the upper-secondary level.

The system of higher education, as shown in Fig. 1, is diversified, since it is based on the multistreams of the secondary-education system. By 1981, there were 170 institutions of higher learning. The Kim Il Sung University is the only university. Other institutes are colleges, the majority being factory colleges, correspondence colleges, and paraprofessional colleges. Factory colleges attached to factories make up the largest share of the total. There are six institutes of research (graduate schools), one attached to Kim Il Sung University and five colleges.

Special education is more diversified, covering special areas such as physical training, music, drama, dancing, fine arts, and foreign languages. These are 11-year schools combining the elementary- and secondary-school courses, except for the physical-training school which is a four-year course established on top of the five-year middle-school course. The schools for bereft

children of revolutionaries (11-year course), those for the privileged class of children of Communist Party leaders (9-year course), those for physically handicapped children, and the *Ayook Waon*, a childcare center housing children aged 4 to 5, are also included in this category.

Adult education in North Korea is of two kinds: one is the system of evening schools for workers, comprising two-year workers' schools, three-year workers' middle schools, and four- to five-year factory colleges. Another kind of adult education is the correspondence schools or correspondence classes attached to secondary schools.

Nonformal education is conducted by factories, party units, and government agencies in various forms such as study hours, refresher courses, meetings, self-examination, and mutual criticism. Much of nonformal education is aimed at the inculcation of communist ideology.

4. Policy Making and Administration

Basic educational policies are determined by the secretariat of the central committee of the Worker's Party and proclaimed in the form of legislative acts by the Supreme People's Assembly or decisions and orders of the cabinet. Planning is the responsibility of the department of science and education, organized within the Party. The plans are subject to approval by the secretariat of the political committee and submitted to the executive ministries for implementation.

The executive ministries responsible for education within the cabinet are the Ministry of Higher Education, the Ministry of Common Education, and the Ministry of Culture. At the higher education level, executive responsibility lies also with various ministries. Higher education in general comes under the jurisdiction of the Ministry of Higher Education, teacher-training institutions under the Ministry of Common Education, and agriculture colleges under the Ministry of Agriculture.

The organization of educational programs, curricula, textbooks, and syllabi is standardized and provided by the ministries. The supervisory function comes under the Communist Party, which maintains a nationwide network through provincial bureaus of education and party organizations.

5. Curriculum

The curriculum of the people's schools includes 11 subjects: in grades 1-3, Korean language, mathematics, physical education, fine arts, music, technical skills, and sanitation are taught. In higher grades, four subjects—history, geography, nature, and practical work in industry and agriculture—are added. Korean language is given the largest share (30-50 percent) of total instruction hours, for it covers thought education by including autobiographies of revolutionaries and their sagas.

In the first three grades of middle school, the curricula consists of general-study subjects. The curricula of higher grades reflect emphasis on natural sciences, such as mathematics, physics, chemistry, technology, theory, and practical subjects.

Of all curricula, those of colleges and universities merit special attention. Higher education in North Korea is characterized by emphasis on scientific and technological education and close links with labor and military training. In a four-year university course, 5,400 to 5,600 hours of instruction are given, and 2,250 hours of the total is spent on general-education courses, which include the history of the Worker's Party of Korea, Marxist-Leninist political science and economics, Russian language, and military training. The rest of the time is for instruction in the subjects of specialization. In addition, compulsory labor is a part of the curriculum for all students.

Students are mobilized for 10 weeks of compulsory labor in industry, construction work, and on the farm. In addition, 2 to 4 weeks of practical training in factories is included as part of the regular curriculum. Therefore, the average student must be engaged in a minimum of three months' physical labor per year. The average student will have 1,200 to 1,400 hours of military training in college or university. Failure in military training automatically disqualifies a student from taking exams in regular academic subjects.

6. Evaluation, Examinations, and Promotion

In compulsory education, students automatically advance to the next higher grade in school at the close of the academic year. There is no examination for entrance to middle school. In school, a teacher's evaluation is based on marks in end-of-term examinations, observations of classroom work, and assignments.

It is at the college level that entrance is gained through competitive examination. In order for graduates of secondary schools and their equivalents to be qualified for entrance to college, two years or more of practical training or labor are required. The selection of entrants is based on the result of a written or oral examination, recommendation, and family background, each being given an equal weight.

A candidate generally files an application, indicating five choices of college or university to the city or *gun* (county) recruitment committee, which in turn assigns the applicant to one of the five choices indicated after a review of transcript, personal history, family background, and recommendations. Admission quotas are determined by the concerned ministry.

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Korea, Republic of

Hyung Jin Yoo

The Republic of Korea (South Korea) is a peninsula off the East Asian mainland. To the east is the Pacific Ocean, to the south a narrow strait separating it from Japan, to the west the Yellow Sea which separates it from mainland China, and to the north a demilitarized zone separating it from the Democratic People's Republic of Korea (North Korea). The climate is temperate. The country is mountainous in the north and east and only about one-fifth of the land is arable—in the southwest.

The population was, in the early 1980s, estimated at 37 million and was equally balanced between the sexes, with a density of 375 people per square kilometre. The population growth rate is 1.7 percent. There was rapid industrialization from the 1950s onwards with a concomitant migration from rural to urban areas. The urban population was slightly over 50 percent at the beginning of the 1980s.

A series of five-year economic plans have produced a high economic growth rate. There is an abundant supply of good-quality labour, a high level of investment, and emphasis on export-oriented industrialization. However, the gains in industrialization have produced a widening gap in standards of living between urban and rural sectors and a growing cultural disunity between urbanites in the modern industrial values. To reduce this gap the government has launched a variety of programmes, including the *Saemaul* (New Village) Movement aimed at effecting self-sufficiency in food production for the nation and a fundamental change in the rural economy.

The government of the Republic of Korea (which came into being in 1948) is highly centralized and is composed of an executive branch headed by a president, a unicameral legislature called the National Assembly, and a judicial branch.

The president is elected for a seven-year term by the National Conference for Unification, and he performs his executive functions through a state council. A prime minister appointed by the president supervises the 20 executive ministries, including the Ministry of Education.

Local governments operate under the jurisdiction of the minister of home affairs. The nation's nine provinces and two special cities, Seoul and Busan, are divided into counties, cities, towns, townships, and villages. The president appoints provincial governors and the mayors of the two special cities, and so he maintains virtual control over the appointment of the heads of local governments. With such centralization, governmental policies, including those bearing on education, can be implemented without the necessity of obtaining the permission of the local legislative bodies that exist in decentralized political states.

In conclusion, present-day South Korea is an increasingly industrialized nation with a growing economy guided by a series of five-year development plans under a highly centralized government. The population, which is homogeneous in both ethnic origins and language, is over 90 percent literate and growing at a slower pace than in the 1950s.

1. Goals of the Educational System

One of the first acts of the National Assembly in 1948 was to enact the Education Law. According to this law education is to inculcate in everyone a sense of national identity and respect for national sovereignty. It is stipulated in Article 1 that the purpose of education is to enable every citizen to perfect his personality, uphold the ideals of universal fraternity, develop a capability for self-support in life, and enable him to work for the development of a democratic state and for the common prosperity of all humankind.

For the attainment of this basic objective, the law emphasizes: (a) a sound body and indomitable spirit; (b) patriotism as a basis for working towards world peace; (c) the evaluation of Korea's own cultural traditions as a prerequisite for cultural development throughout the world; (d) encouragement of creative activities; (e) love of liberty and mutual cooperation and regard as a basis for harmonious social life; and lastly (f) the capability to appreciate and create artistic accomplishments of a high order.

In 1968, a Charter of National Education was promulgated. This was felt to be necessary because the rapid pace of modernization and industrialization was undermining old customs and traditions. The charter stressed the need to revitalize the illustrious spirit of Korea's ancestors and to adopt a "posture of self reliance". Education was to develop creativity and a pioneering and cooperative spirit in each individual. Finally, the charter delineated an ideological stance against communism and for patriotism.

2. The Structure and Size of the Educational System

The general system of schools in Korea comprises four stages: the primary, the lower secondary, the upper secondary, and higher education. These four stages correspond to the grades 1-6 (primary school), 7-9 (middle school), 10-12 (high school), and 13-16 (college or university) respectively. Figure 1 presents the educational system in diagrammatic form.

The primary school provides six years of compulsory elementary education to children between the ages of 6 and 11. Enrolment in primary schools has reached 99.8 percent, and dropouts before completion of elementary

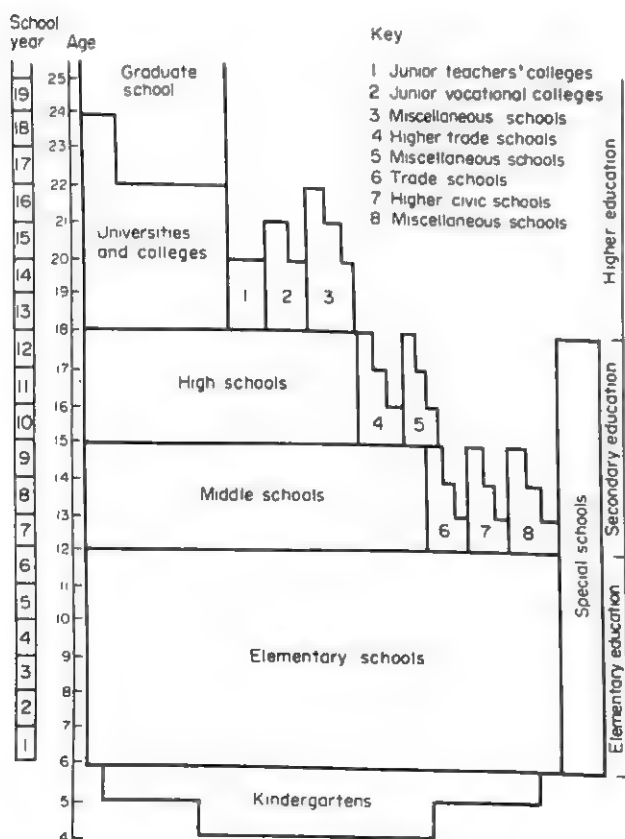


Figure 1
Structure of the educational system

Table 1
Number of schools by level 1979

Schools	Total	National	Public	Private
Kindergarten	794	—	26	768
Primary school	6,450	16	6,356	78
Middle school	2,056	5	1,308	743
Academic high school	724	6	337	381
Vocational high school	574	5	297	272
Junior vocational college	127	20	16	91
Junior teachers' college	11	11	—	—
College and university	84	19	1	64
Graduate school	100	28	—	72
Special school	51	2	10	39
Others	14	2	—	12

education have virtually been eliminated. Upon completion of elementary education, pupils aged from 12 to 14 attend middle school which offers three years of lower-secondary education.

A welcome diversification of secondary education has been achieved in the Republic of Korea by providing a variety of high schools for grades 10, 11, and 12. The high schools are generally divided into two categories—general and vocational. The latter include agricultural, commercial, fishery, and technical high schools. In addition, there are comprehensive high schools which incorporate both general and vocational courses. Graduates of high schools are given the choice of attending either the junior colleges or the senior colleges (or universities) to receive higher education.

Corresponding to the general-school ladder are the trade and higher trade schools at the secondary-education level, which offer skill programmes of a highly specialized nature.

Originally designed to offer literacy programmes, civic schools still exist at the elementary and secondary levels. With the provision of compulsory education up to grade 6, these schools are being phased out.

There are special schools offering elementary and secondary education for the deaf, blind, or otherwise mentally or physically handicapped children. Preschool education is provided by kindergartens. Table 1 presents the total number of schools by level in 1979.

Institutions of higher education denote those providing classes for grades 13 and higher. Commonly, institutions providing academic courses for grades 13-14 are called junior colleges and those accommodating grades 13-16 are referred to as senior colleges. Above them are graduate schools providing master's and doctoral degrees courses.

Total college enrolment in 1979 was reported as 444,578 in 334 institutions of higher education staffed

by a total of 19,174 faculty members. These totals included 127 special colleges with 75,205 members of the student body and 5,236 faculty members.

Teachers' colleges are junior colleges comprising grades 13 and 14 and turn out primary-school teachers. There are teachers' colleges with a total enrolment of 7,308 with 537 faculty members. There are 84 four-year colleges with a total enrolment of 330,345 and 13,059 faculty members. These four-year colleges have an aggregate of 100 graduate schools attached to them, with a total of 25,789 graduate students pursuing post-graduate studies, including 2,513 working on doctoral degrees. There are 12 other institutions of comparable rank to four-year colleges, with 3,242 students and 151 on the teaching staff.

Colleges and universities in Korea, like schools at the lower levels, operate with strict enrolment limitations. Because of the gap between college-admission limits and the number of aspirants, each school year produces a large number of so-called "repeaters", who intensify competition for college admission. This disparity has increased because the rise in the number of high-school graduates each year has not been matched by a corresponding rise in college places.

A college aspirant must pass two obstacles. The first is the qualifying test based on the normal subjects taught at high school, which selects about twice the number of candidates for whom places are available. Only those who successfully pass this test then qualify to take the entrance examinations individually administered by colleges and universities. The entrance examinations concentrate on such key subjects as Korean, English, and mathematics. For final scoring, the results of these two tests are consolidated, usually with a 50:50 ratio. Certain colleges dispense with the second examinations altogether, accepting students on the basis of the qualifying test along with their academic records at high school. This tendency is entirely logical considering that there is a very close parallel between the two tests and a student who does well at the first test can normally be expected to do equally well at the second.

To be accepted as a member of the faculty, a person should have acquired at least a master's degree followed by at least two years' specialized research or academic experience. At four-year colleges, a Ph.D. degree is essential to qualify even for an assistant professorship.

Admission to a graduate school is offered on a competitive basis to those who have acquired bachelor's degrees by completing the normal four-year college course. Graduate schools cater for those graduate students who desire to pursue academic or professional careers. Total enrolments in graduate courses in 1969 numbered 6,155. Ten years later, in 1979, the total had risen to 25,789, enrolled in 100 graduate schools. Of the 1979 enrolment total, 22,754 were pursuing master's degree courses while the remaining 3,035 were working for doctoral degrees. The largest single group of graduate students working on master's degrees was pursuing social science studies, followed by engineering and

medical students, in that order. Among Ph.D. students, however, the largest subgroup was in medicine, followed by engineering and social sciences.

3. Administration and Finance

The minister of education, primarily responsible for education and science, is a member of the state council and as such participates in top-level government policy decisions. As the head of the Ministry of Education, the minister is responsible for the establishment of policy regarding all aspects of education and scientific study, and exercises control and supervision of educational-policy implementation.

The powers and authority entrusted to the minister of education include the enactment and implementation of ministerial decrees, direction and supervision of educational administration, administrative acts and dispensations regarding education, such as the granting of licenses, approval, and authorization, personal administration of educational personnel, and direction and supervision of educational organs.

The basic unit of local administration is the board of education of each of the provinces (and the special cities of Seoul and Busan). Each board is composed of seven members elected by the local autonomous body; however, since the formation of local autonomous bodies was suspended (1982), these members have been seconded by the minister of education on behalf of local autonomous bodies. Figure 2 presents the organization of the board of education.

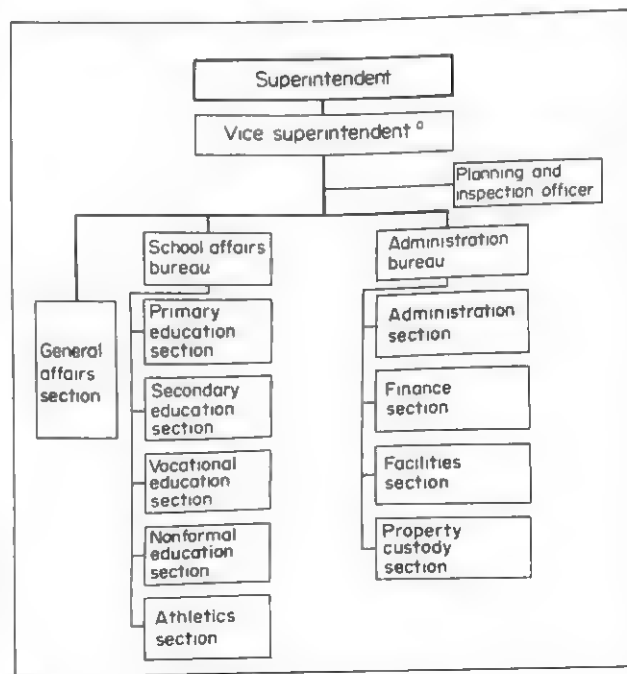


Figure 2
Organization of the board of education

^a In Seoul and Busan special cities only

The total length of its frontiers is about 685 kilometres and the total area of the State of Kuwait is 17,818 square kilometres (6,880 square miles). The country is sparsely populated with 1,355,827 people of which only 562,065 are Kuwaitis. The population per square kilometre is 76.1.

Kuwait is a welfare and tax-free state with a per capita income of US\$20,250 in 1981, which is the highest in the world. The main income of the country is derived from petroleum and its products.

The population is mainly Moslem but there are some non-Moslems among expatriates. The official language is Arabic. In schools, English is taught as a foreign language. In engineering, medical, and science colleges, English is the medium of instruction.

Before the discovery of oil, Kuwait's source of income was the pearl industry, fishing, and trade with neighbouring countries. Education was rudimentary. The teacher's house was utilized as a classroom and the teachers, who were primarily female, taught the Koran to a class comprising approximately 25 boys and girls. Usually classes were held in two shifts, with a lunch break between. Teachers were paid by the students' parents.

In 1912, a group of merchants founded the first proper school, the Mubarakiyah School. Boys were taught book keeping and commercial correspondence as well as the usual reading, writing, and arithmetic. The school expanded, more teachers were brought from Palestine, and by 1930 the timetable included history, geography, and even drawing. During the 1930s the artificial-pearl industry started to affect the trade in real pearls. The pearl industry in Kuwait began to fade and the Mubarakiyah School, which was the foundation of education in Kuwait, had to be closed. But also during the 1930s, oil was discovered, and with the increase of activity in this field, a new system of education began to develop under the government Department of Education. In 1937, the first girls' school was founded. The Second World War interrupted further progress in education.

1. Goals of Education

The goal of education in Kuwait is to create good citizens with balanced personalities. Education develops Kuwaitis physically, mentally, spiritually, psychologi-

cally, and socially. Understanding and practising the religion of Islam is essential. Students ought to be well-disciplined, have moral and ethical values, and appreciate aesthetic feelings. The love for God, their country, and their culture and traditions are developed in students. Health, hygiene, and a civic sense are also cultivated in them.

2. Size and Structure of the School System

In 1948, there were only 20 schools; in 1968 there were nearly 200 schools. The present three-stage system of education started in 1956. Most schools have been built since the 1960s. In 1981, there were 447 schools, 20,336 teachers, and 302,610 students. The 1980-81 budget for education was 229,500,000 Kuwaiti dinars. Table 1 presents the growth in enrolment between 1961 and 1981.

In government schools, education is entirely free. Furthermore, the students are provided with textbooks, exercise books, uniforms, and shoes. Health services, meals, transportation, and monthly allowances are completely subsidized by the government of Kuwait. Education is compulsory from the ages of 6 to 14.

Formal education in government schools lasts 12 years: four years each for primary, intermediate, and secondary education. The two-year kindergarten is pre-primary and not compulsory. At the end of secondary school, a public examination decides students' futures and fortunes.

In the field of higher education, Kuwait has developed immensely since the 1960s. The Kuwait University was established in October 1966. The minister of education, in his capacity as a chancellor of the university council, and the rector are responsible for administering the university. Rectors are appointed by decree on the recommendation of the minister of education. Each faculty is administered by a dean who is appointed on the authority of the minister of education, acting on the recommendation of the university council, from among the heads of the departments composing the faculty in question. The secretary general of the university supervises the administration and finances of the university, under the direction of the rector. In forming the university council, special care has been taken to include representatives of government and national

Table 1
Increase in enrolment in public education 1961-81

Years	Teachers			Students			Classrooms	Schools
	Total	Female	Male	Total	Female	Male		
1961-62	2,551	1,180	1,371	51,090	20,230	30,860	1,633	142
1965-66	5,036	2,356	2,680	91,788	38,238	53,550	2,878	176
1970-71	9,085	4,446	4,639	138,747	60,384	78,363	4,644	230
1975-76	16,472	8,988	7,484	201,907	92,034	109,873	6,932	326
1980-81	22,885	12,335	10,550	302,610	141,623	160,987	9,681	481

Table 2
Estimated population 1981–85

Year	Total			Non-Kuwaitis			Kuwaitis		
	Total	Female	Male	Total	Female	Male	Total	Female	Male
1981	1,463,850	615,888	847,962	877,866	319,495	558,371	585,984	296,393	289,591
1982	1,562,190	648,051	914,139	955,388	340,454	614,934	606,802	307,597	299,205
1983	1,668,378	682,012	986,366	1,040,015	362,788	677,227	628,363	319,224	309,139
1984	1,783,110	717,878	1,065,232	1,132,417	386,587	745,830	650,693	331,291	319,402
1985	1,907,150	755,761	1,151,389	1,233,330	411,947	821,383	673,820	343,814	330,006

interests in order to strengthen relations between the university and public life.

The university comprises colleges of arts, of science, of law and *Sharia* (Islamic doctrine), of commerce, economics, and political science, of engineering and petroleum, of medicine, of education, and of graduate studies, the centre for evaluation and measurement, and the centre of language studies.

In the field of vocational education, there were the following institutes in 1981: two institutes of equivalent education for boys; a secondary commercial institute for boys; an industrial institute for boys; two institutes for religious studies for boys; two teacher-training institutes—one for boys and one for girls; two institutes for commerce—one for boys and one for girls; an institute for public health for girls; special training institutes (for the handicapped)—12 for boys and 12 for girls; and a technological institute for boys. The total number of students in these institutes is 6,434.

Besides the government schools there are private Arabic schools and foreign schools for the different expatriate communities. Private Arabic schools teach the same syllabus as the government schools, are aided by the government, and are run under the supervision of the Ministry of Education. Foreign schools teach the syllabus of their own country, plus Arabic, Kuwaiti geography, and Kuwaiti history as compulsory subjects. They are also supervised by the Ministry of Education. Study of the Koran and the fundamentals of Islam is compulsory for Moslem students only. According to 1980–81 statistics, there were 39,984 students on roll in private Arabic schools and 29,312 students in private foreign schools.

As a developing country, Kuwait concentrates keenly on adult education, and according to 1980–81 statistics, 12,446 Kuwaitis and 7,824 non-Kuwaitis were then registered in adult-education programmes.

3. Curriculum, Examinations, and Promotion

The Ministry of Education established the curriculum research centre in 1974 to deal with vital issues and problems in education. The development and evolution of curriculum, examinations, and the adoption of the most suitable teaching methodology for Kuwait, as well

as the orientation and enhancement of education in general are major responsibilities of the ministry.

In Kuwait, evaluation in education is viewed as important for diagnosis, prevention, and remedy, and it is believed that such evaluation should be integrated and continuous. For the purposes of continuous evaluation, 40 percent of marks are devoted to daily performance and intermittent tests set by teachers and 60 percent of marks are allocated to the final examination. From class 1 to class 11, teachers endeavour to diagnose weaknesses of pupils and to correct them during the academic year in order to ensure fewer failures. Most pupils progress normally to higher classes. In the final year of school, a public examination is held. In the university, a unit credit system is observed. In some secondary schools, the Ministry of Education is experimenting with the unit credit system.

4. Teacher Supply and Training

Systematic education in Kuwait started in the 1930s, which is relatively recent compared with other Arab countries. Thus, Kuwait at first relied mostly upon non-Kuwaiti personnel. Countries such as Palestine and Egypt used to send teachers to teach in Kuwaiti schools. Until 1970–71, about 75 percent of teachers were non-Kuwaiti (6,762 non-Kuwaiti as compared with 2,232 Kuwaiti teachers).

In 1949, a class was opened in the Mubarakiyah School to train teachers, but it was closed in 1951 due to a dearth of candidates. In 1953, a class attached to a school was opened to train women teachers. Systematic teacher training was inaugurated later, with one institute for male teachers and one for females. After completion of the intermediate stage of education, candidates enrolled in these institutes, and after four years of successful training they were eligible to teach in kindergarten and primary classes.

To raise the standard of trained teachers in kindergarten and primary classes, the law was revised, and in 1972 two new institutes of teacher training were opened, one for males and the other for females, and old institutions were abolished. Under the new regulations, candidates enrol after the completion of high school and the duration of the course is two academic years.

Each member of a special city/province board of education must enjoy a good reputation within the regional community and have had a teaching career of at least two years. Of the seven members who make up a board of education, five are appointed, while the remaining two are *ex officio* positions, respectively filled by the special city mayor or provincial governor and the local education superintendent. The board is chaired by the city mayor or provincial governor. The board members are appointed for a term of four years, but each may serve for not more than two consecutive terms. The education superintendent of each special city/province is elected by the relevant board of education, and appointed by the president on the recommendation of the minister of education.

The education superintendent of each special city/province serves for a term of four years, which is renewable. The basic qualifications of each education superintendent are that he should enjoy a good reputation within the local community, have had a distinguished career, and possess specialist knowledge in the area of education. Most education superintendents have had long careers in the field of education, and some of them are *ex-professors* or, occasionally, former ranking civil servants.

The total cost of public education in 1979 was US\$2.4 billion which represented 3 percent of the gross national product (GNP) and 18.9 percent of the total government budget. Only 35 percent of all educational costs come from government sources. By school level, elementary education receives the highest proportion, leaving a minimal amount for higher education. As free, compulsory education is to be extended from six to nine years of schooling, the following measures have been devised to secure additional funds: (a) allocating a fixed ratio of GNP to education; (b) creating a special tax for education; (c) reviving the law stipulating the ratio of local-education finance that is to come from the internal tax; and (d) increasing the educational responsibility of industry, especially for financing vocational education.

4. Teacher Education

There are two types of teacher-education institutions in Korea: the two-year teachers' college (grades 13-14) for training elementary-school teachers and the four-year college of education for training secondary-school teachers. Whereas all teachers' colleges are national, colleges of education are either national or private. The main difference between nationally and privately endowed colleges of education is that the former offer various exemptions apart from charging relatively low tuition fees; in return, however, graduates of a national teachers' college or college of education are obligated to teach at designated schools for a prescribed period of time.

Apart from the colleges of education, some of the ordinary four-year colleges offer specialized teachers' courses, completion of which entitles a person to a

licence to teach in middle or high schools. This expedient is in effect because the existing number of colleges of education cannot by themselves supply the required number of secondary-school teachers.

Teachers' licences or certificates come in three classes or categories, i.e., kindergarten, elementary school, and secondary school. Within each category, teachers' licences are graded into: apprentice teacher, regular teacher II, regular teacher I, counseling teacher, librarian, laboratory instructor, and nurse. School principals and superintendents are issued special administrative licences qualifying them for their positions. Regular teacher II licences are issued to graduates of teachers' colleges, colleges of education, and teachers' courses at ordinary four-year colleges, and also to graduates of nursing or preschool teacher courses at junior or senior colleges, and are permanent. Eligible for regular teacher I licences are those holders of regular teacher II licences who have completed the prescribed amount of on-the-job training (240 hours) in a minimum three years' teaching career. Apprentice-teacher licences are issued to those who have passed teachers' qualification examinations or the graduates of government-designed four-year courses in engineering, fisheries, merchant marine, and agriculture.

5. Curriculum Development

In the 1970s, the nation's planners initiated a variety of reforms that included significant changes in curriculum and instructional techniques.

The main thrust has been to develop an instructional system which draws not only on classroom lectures and the reading of textbooks but also on multiple learning materials and television and radio programmes. The project has consisted of two interrelated aspects. The first has been a search for new instructional techniques, a search that has involved devising models of instruction, then developing suitable teaching/learning materials and trying them out in practical situations. The second has been the creation of a new instructional system that proceeds through a cycle of five stages which the teacher uses in carrying out study units or lessons. The stages are: (a) planning, following the directions offered in a teacher's guidebook; (b) diagnosing students' strengths and weaknesses by means of test items in a workbook; (c) guiding student learning by use of workbooks and television or radio programmes; (d) extending learning through the use of formative test items in student workbooks and through other techniques described in the teacher's guidebook; and (e) evaluating the results of the students' learning as reflected in summative tests.

6. Promotion and Entrance Examinations

Within levels of education, promotion is more or less automatic. The entrance to university and other tertiary education has been dealt with above (Sect. 2). There

was a highly competitive examination for entrance to middle school. This was abolished at the beginning of the 1970s.

The decision to abolish entrance examinations for middle schools came about as an offshoot of the government policy to equalize the levels of individual middle schools. This policy, in turn, was dictated by the need to relieve primary-school pupils, particularly those in graduating classes, from the excessive burden of preparing for the highly competitive entrance examinations for "first class" middle schools. This would, it was thought, enable primary-school pupils to devote more time to balanced development of physical and mental faculties, and at the same time protect them from discrimination between "better" and "inferior" schools. This measure in effect liberated school children from the "examination hell" and normalized primary-school administration. This policy was also in line with the global trend of assuring equal opportunity to everyone by demolishing all barriers of discrimination.

Under the present system, neither applicants nor their parents are given a choice in deciding which middle schools to enter. At the same time it has abolished all distinctions between superior and inferior schools, thus doing away with the need for such a choice. This measure, carried out against considerable popular resistance, has produced two opposite sets of results. It was welcomed by the so-called "inferior" middle schools which could formerly expect only mediocre applicants, but received with opprobrium by the elitist schools which formerly used to cull the pick of the crop. No such distinctions exist today, and each middle school in the system is theoretically as good (or as bad) as any other. For some of the "better" private middle schools, the measure caused financial losses as they could no longer advertise their better-than-average teaching staff to attract a better crop of applicants—and generous financial contributions from parents.

By 1982, most middle schools had forfeited many of their former marks of distinction. But it cannot be denied that all primary-school graduates now enjoy the benefit of "equal accessibility" to all middle schools within their respective school zones.

7. Educational Research

Apart from research carried out at universities and colleges the two main research bodies are the Korean Educational Development Institute (KEDI), founded

in 1972, and the Korean Institute for Educational Research and Training (KIERT), founded in 1982. The Korean Educational Development Institute has a staff of over 350 specialists and conducts studies of educational objectives and content, instructional methods, upgrading the quality of learning, developing instructional radio and television, devising and implementing a nationwide testing scheme, and population education. The Korean Institute for Educational Research and Training is in its infancy but is beginning testing programmes and among other things is involved in the Science Achievement Study of the International Association for the Evaluation of Educational Achievement (IEA).

8. Major Problems

The major tasks of the 1980s and 1990s will include: (a) increasing investment in technical education, involving more cooperation between schools and industry; (b) reducing the urban/rural gap in achievement; and (c) placing more emphasis on social and moral education.

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Kuwait

A. Bustan

The State of Kuwait is an independent Moslem Arab country occupying the north corner of the Arabian Gulf. It is bound on the east by the Arabian Gulf, in the

southwest by the Kingdom of Saudi Arabia, and in the north and the west by the Republic of Iraq. This location makes Kuwait the gateway to the Arab peninsula.

For the training of secondary-school teachers the College of Education was inaugurated in 1981-82 in Kuwait University. The college of education comprises four departments, for principles of education, psychology of education, curriculum and methods of teaching, and educational administration.

5. Major Problems

In education, as well as in other fields in Kuwait, the main problem for planners is the uncertain growth in the number of non-Kuwaitis. According to 1980 statistics, the percentage of Kuwaitis in the population is 41.5 and of non-Kuwaitis, 58.5. Table 2 presents the

estimated proportions of Kuwaitis and non-Kuwaitis in the population in 1981-85.

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Laos

K. Phonekeo

The Lao People's Democratic Republic (LPDR) was established in December 1975, when Laos gained its independence after more than 30 years of uninterrupted revolution.

Laos is the least populated country in Southeast Asia with a surface area of 236,800 square kilometres (91,428 square miles) and approximately 3,750,000 inhabitants, according to 1980 census data. But it is rich in minerals, forestry resources, and hydroelectric potential and in agriculture and livestock breeding. It is also a country with an old civilization attested by its Indo-European language, its arts, and pagodas. The Lao people have had their own writing system for centuries; they have their own culture, with a rich background in dance, song, poetry, and religious and folkloric literature. The development of this culture was closely linked to the traditional education run by the monks in the pagodas.

Before 1893, when French colonialists occupied Laos, Lao children and youth were traditionally educated in the pagodas, where they received not only religious education but also a basic general education in reading, writing, arithmetic, sculpture, handicrafts, and traditional medicine. Under colonialism, education was limited to a small minority of privileged urban elite.

After the end of the Second World War in 1945, the Lao people began to struggle for national liberation. The major educational effort in the areas resisting the central government was directed at the eradication of illiteracy. At the first general assembly of the delegates of the Free Lao National Front (Lao Itsala) in 1950, the following major points of cultural policy were stipulated: (a) the Lao language is from now on the one and only official language in all spheres of activity in the liberated zone; (b) the Lao writing, officially recognized by its alphabets and based essentially on the popular phonetic transcription, is a syllabic writing; (c) the review *Itsala* (Liberty), the first magazine of the resistance, is the central organ of political and cultural propa-

ganda of the new Lao-Itsala (Free Lao Front), written according to the unified spelling.

The country was divided into two zones: the legal zone belonged to the revolutionary forces of the National Liberation Front and the other was under the control of the central government, supported by the United States. These two types of society were developing in two different directions in the political, economic, and cultural spheres until December 1975, the date of the establishment of the Lao People's Democratic Republic.

In the revolutionary areas, education began to develop according to the popular-mass and revolutionary system. The objective of the struggle was to tackle three principal tasks concurrently: combatting, producing, and learning. The programme for education was: (a) codification of the Lao language and its ratification as the only official language; (b) enrichment of the Lao vocabulary with scientific and technical words; (c) organization of general education into four years of primary school and six years of secondary school; (d) accelerated training of the teaching profession; and (e) the campaign for the eradication of illiteracy and the improvement of adult education.

In the zone controlled by the central government the educational system was copied directly from France. Only a small number of the intelligentsia were trained, emphasizing the culture and language of France at the expense of the Lao culture and national tongue. School textbooks in the Lao language were scarce in primary schools and nonexistent in secondary schools. The textbooks used came from France.

With the involvement of the United States (1955-75), the situation worsened culturally and educationally with the import of Western values which were alien to those of the Lao people. Education could do little to combat these values until after independence in December 1975.

1. Goals of the Educational System

In transforming Lao society into a socialist one, national education was given priority over all other government activities. The role of the Ministry of National Education was to train new socialist men and women and, at the same time, produce a rapid increase in the number of specialized workers, technicians, and scientists. In short, the system of education must serve the work of the revolution. In 1982, it was composed of adult literacy, preschooling, general education, and technical and higher education.

The first task of the ministry was to revise all teaching manuals, in order to have them conform with the new policies of the government. Lao children are learning, for example, not only to read, write, and calculate correctly, but also "to realize the collective spirit in order to be able to become productive members of a socialist society based on collective and state enterprises".

2. General Structure and Scope of the Educational System

Since the founding of the Lao People's Democratic Republic, the Lao People's Revolutionary Party and the government have made a great effort to develop general education throughout the country—in the mountainous regions as well as in the plains and among ethnic-minority groups. M. Kaysone Phomvihane, General Secretary of the central committee of the Lao People's Revolutionary Party and Prime Minister, reported as follows on the occasion of the fifth anniversary of the founding of the Lao People's Democratic Republic, December 2, 1980:

Up to the present time, the number of those who are enrolled in school covers one-quarter of the total population of the country. Compared with the situation before liberation, the number of primary school pupils has increased nearly 6 times in the lower secondary school has increased nearly 6 times and more than 10 times in the upper secondary school. Illiteracy has been eradicated essentially in 10 provinces out of 13 in the whole country. Now 85 percent of adults are literate (35 percent before 1975). This is unusual in the history of our country.

The general structure of the educational system comprises: kindergarten (3- to 6-year-olds), primary school (7- to 11-year-olds), secondary school of first degree (12- to 14-year-olds) and second degree (15- to 17-year-olds), and universities or technical institutes. By 1983 nearly 79 percent of children of school age were enrolled in primary school, 48 percent in lower-secondary school, and 23 percent in upper-secondary school. Some 40 percent of pupils in primary school were female, 36 percent in the lower secondary, and 30 percent in the upper secondary. In 1963-64, the percentage of schooling at different levels was not only very low (33 percent in primary, 29 percent in lower secondary, and 0.6 percent in upper secondary), but dropout was unusually

high not only from one level to another, but also within each level (UNESCO 1965). Figure 1 presents the current structure of education and Figs. 2 and 3 the increases in enrolment from 1940 to 1980 in primary and secondary schools respectively.

Within adult education, there are several types of school: the workers-peasants school in Vientiane, adult schools at the provincial and district levels, and schools for young people from the ethnic minorities. In these schools, only cadres, workers, and peasants aged between 20 and 50 years who are selected from among the best workers, are allowed to enrol. These adult students have board and lodging provided by the government during their schooling. The teaching programme is centred on the completion of primary and secondary schooling (leading to a *baccalauréat*). After completion of these studies the workers can, if they wish, enrol in vocational schools at an appropriate level in order to carry on higher technical studies.

3. Administration and Finance

This educational system is a large burden on the state budget, but the Party and the government have decided to train their cadres in this way, for it is these people who dedicated themselves to the liberation of the country throughout their youth. The primary schools are administratively dependent on the village authorities; the lower-secondary schools are under the commune authorities; the upper-secondary schools are under the

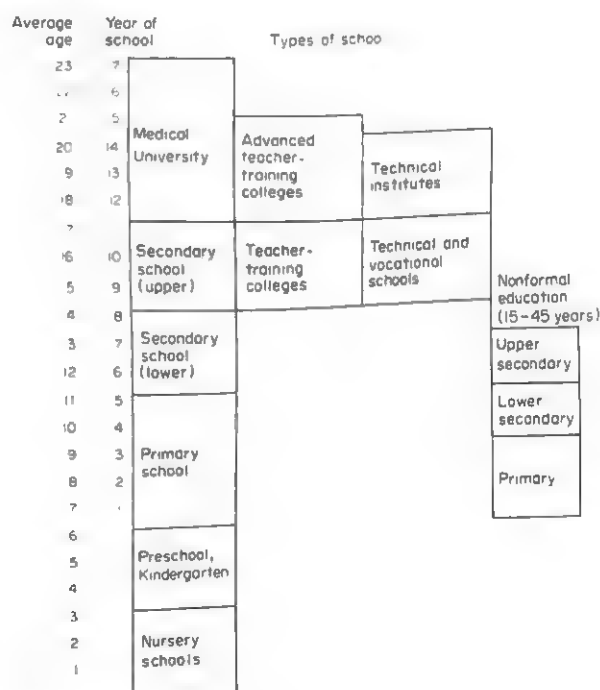


Figure 1
Structure of education

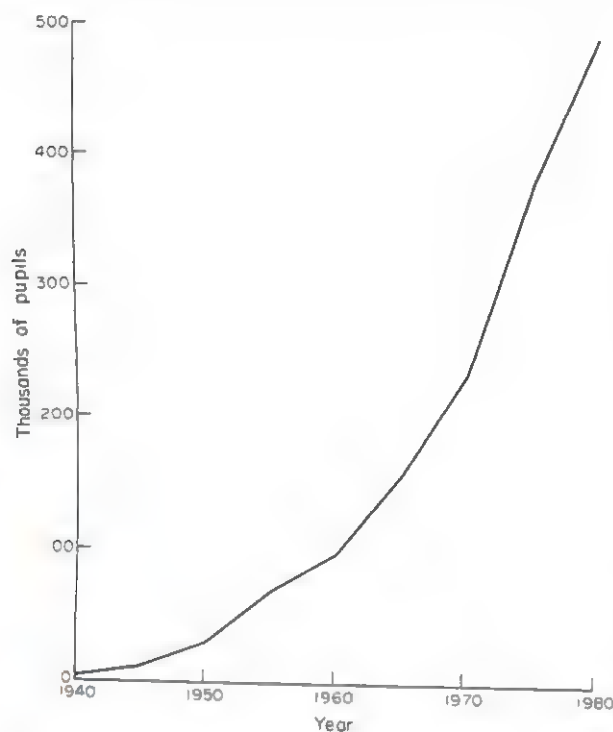


Figure 2
Primary-school enrolment 1940-80^a

^a Source: Laos, Ministry of Education

district authorities; and vocational schools are under the provincial authorities.

The Ministry of Education is responsible for producing a unified programme, as well as for the control and evaluation of every stage of the educational system in order to propose new reforms, if needed. The ministry is also in charge of universities, specialized institutes, and the training of teachers. It is responsible, in particular, for the creation and running of model schools for the upper-secondary level. All children and adults receive their education from the state. There are no private schools.

It is practically impossible to obtain the statistics on the financing of education over the past 50 years. The national budget of the old regime was always in deficit. The report of a UNESCO mission in 1965 indicated that in 1963 the estimated state deficit was 3,900 million kip.

Since the liberation, the national budget has gradually become balanced. At the beginning of the 1980s, national education received about 17 to 22 percent annually of the state budget, the second largest share of state money (agriculture alone receives more).

At the provincial level, it should be noted that the construction of school buildings and equipment for primary schools is undertaken by the villagers. The state provides exercise books and textbooks, free of charge, to pupils throughout the country.

4. Teachers and Teacher Training

The recruitment of teachers is undertaken at two levels: primary-school teachers are recruited directly by the provincial authorities on their own budget; teachers at secondary schools and tertiary institutions are recruited by the Ministry of Education. Teachers are trained at teacher-training colleges of different levels. Student teachers for primary school are selected from pupils having completed their primary education and who are at least 15 years old. The training takes three years and is undertaken in the province itself. Student teachers for lower-secondary school are selected from students having completed lower-secondary school and are then trained for three years in the teacher-training college. Student teachers for upper-secondary schools are chosen from students having completed their *baccalauréat* and are trained for four years at the *Ecole Supérieure de Pédagogie* in Vientiane.

In spite of government efforts to raise the standard of teacher training, there is still a lack of instructional and educational materials, laboratory equipment, and chemical products for experiments. This lack is coupled with the rapid expansion of the number of students entering teacher training. There is a need to train the teacher-trainers and for the establishment of an adequate and appropriate training programme. With this end in view, the government has just requested a UNESCO mission to study and establish a programme for the retraining of teachers, teacher-trainers, and professors.

5. Major Problems

During the 1980s and 1990s, the country will have to accomplish its transition to socialism. By then, solutions to problems will have been included in government five-

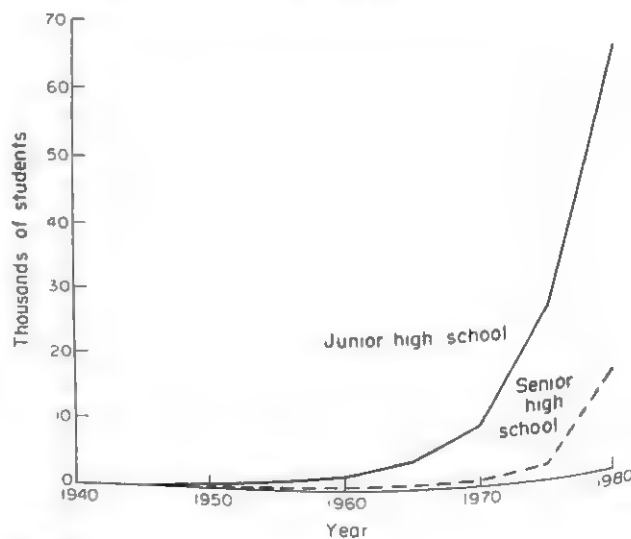


Figure 3
Secondary-school enrolment 1940-80^a

^a Source: Laos, Ministry of Education

year plans and will have been partially resolved, as the experiences of many other socialist countries have proved.

However, in the years to come, international help will play a prominent part in examining socioeconomic programmes and planning their appropriate evolution. The appraisal and implementation of these programmes will often require aid in terms of experience and assistance from international organizations. Modern languages, for example, are growing in importance in international and diplomatic trade and relations, but, for the time being, the teaching of modern languages in secondary schools leaves much to be desired. The appropriate programme and textbooks for teaching foreign languages do not yet exist. Thus, the government intends to create an institute of foreign languages where specialists can be trained and where, at the same time, the modern-languages knowledge of cadres can be improved. It is hoped that UNESCO and foreign countries will help in this matter.

Increasing enrolment is also likely to be a problem, especially in the upper-secondary school, and the number of students finishing secondary school without employment opportunities is increasing every year. In order to alleviate this problem to some extent, the government has made provision, in the first five-year plan, for the creation of a Polytechnic National Institute, which will absorb a large number of these secondary-school graduates.

In short, in the first five-year plan of economic and

social development (1981–85), the government has given high priority to the training of personnel in all fields in order to solve the urgent economic, educational, and cultural problems that the country is confronting.

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Lebanon

M. Kraïdy

The Republic of Lebanon occupies a mountainous region along the eastern Mediterranean. Its area is 10,450 square kilometers (4,035 square miles). Its location has helped keep it open to the external world and give it its traditional role of intermediary between West and East. The mountainous nature of Lebanese territory has helped the country maintain an almost uninterrupted autonomy or independence throughout its history and attracted persecuted religious and ethnic groups to seek shelter in its mountains.

The present system of education in Lebanon was built up under European and American influences. Schools of a Western type were established during the Mutawassitah period of autonomy (1861–1914) through the efforts of missionaries: in 1866, an American Presbyterian mission founded the American University of Beirut (AUB) and, in 1882, the French Jesuits founded Saint Joseph University (USJ). The French system of education was implanted during the French Mandate (1921–43); during this period, instruction was limited to a political and intellectual elite. Since independence (1943), the number of schools and universities has steadily

increased. Under the influence of the French and American systems of education, a Lebanese system has slowly emerged.

The main feature of this system is the importance given to the study of languages. At every level of schooling, students learn two languages: Arabic (the official language) and either French (approximately 75 percent of all school students) or English (25 percent). Students frequently learn a third language, starting at the age of 11. More than half of the Lebanese are bilingual (Lebanon, Ministry of Planning 1972).

Since independence, the government has been responsible to an elected parliament who in turn elects a president of the republic (for six years). To avoid friction among the 17 religious confessions which reside in Lebanon, quotas are assigned to each of them at various levels of the government and civil service. These quotas are weighted in accordance with the numerical importance of each group. Traditionally, this has made governments weak, since major decisions must obtain unanimous acceptance.

In the absence of an official census, individual studies

must be used to provide the best statistical information. In 1975, the Lebanese population totalled 2.6 million (ECWA 1980). Since then, it has decreased due to emigration, to the sharp fall in the birth rate, and to the large number of deaths, all caused by the civil war that began in 1975. Between 1965 and 1975, the population growth rate slightly decreased, being 2.3 percent in 1975 (Courbage and Fargues 1974). Most of the population live in cities, mainly in Beirut and its suburbs (50 percent of the population in 1975) but this situation has temporarily changed since the outbreak of war (1975) when a large internal migration movement, still difficult to enumerate, occurred.

Since independence, successive governments have adopted a laissez-faire economic policy. Two five-year plans (the last one for 1972–77) were adopted but were not seriously implemented. In the Lebanese economy, the tertiary sector has traditionally been predominant, due to the importance of trade, banking, tourism, and communications. In 1970, this sector contributed 69 percent of the gross national product (GNP) and employed 56 percent of the labor force, while the agricultural and industrial sectors contributed respectively 10 and 21 percent (Maroun 1977) and employed respectively 19 and 25 percent of the labor force. The destruction of many industrial suburbs since 1975 has probably increased the share of services to about 80 percent of GNP.

The trade balance has always been negative: the value of exports has fluctuated since independence between 20 and 40 percent of that of imports. However, the balance of payments has shown surpluses of between 5 and 40 percent of the value of imports. This is due to the flow of capital to Lebanese banks, tourism, triangular trade transactions operated by Lebanese business institutions, and the earnings of Lebanese immigrants in oil-rich Arab countries. The increase in emigration (of mainly technical and professional people) since 1975 has increased the flow of capital into the country and has thus compensated the drop in industrial exports.

1. Structure and Size of the Educational Effort

In Lebanon, there are private and state schools and universities. Private institutions are supported financially by student fees and attract students from the high- and middle-income strata of the population. State (nondenominational) institutions are run and supported financially by the government and their students come mainly from low- and middle-income groups. At the primary level, there is also a third type of school; these schools are privately run by religious organizations and subsidized by the government. Their students come from low-income families who prefer a religiously oriented education but cannot afford to pay the high fees of private schools.

Statistical data on student enrollment have been irregularly published by different departments in the Ministry of Education, and some data can be found in statistical books and guides published by the Center for Educational Research and Development (CERD) since 1973.

Table 1 gives student enrollment in different types of school for the year 1979–80 (Al-Haje and Antoun 1981), as well as the percentage of each age group attending school. The fact that only 92 percent of children aged 6–11 years attend school is due mainly to the late enrollment of children in some rural areas. There is no legislation on compulsory schooling for children.

Figure 1 presents variations in total enrollment at different levels of schooling from 1956 to 1981. Data available from 1978 to 1981 show that sex differences in enrollment are negligible at school level, while at universities females constitute about 40 percent of the total.

Higher education is of particular interest. There are, in Beirut and its suburbs, 15 universities and institutes of higher education with different religious and/or national affiliations. They make Beirut an important regional center for higher studies which attracts students from all over the Middle East, from Africa, and from Asia. Before 1975, about half of the students were non-

Table 1
Student enrollment 1979–80

Age	Level	Total enrollment	Percentage of age group in attendance	Percentage in state schools	Percentage in private schools
4–5	Kindergarten I	125,300 ^a	50	22	78
5–6	Kindergarten II		80		
6–11	Primary	388,482 ^a	92	41	59
11–15	Intermediate (junior high)	178,165 ^b	65		
15–18	Secondary (senior high)	85,417 ^c	34	51	49
Over 18	University	88,576 ^d	—	51	49
				48	52

^a 52 percent of the total enrollment in the private schools at the primary and kindergarten levels is in subsidized private schools ^b Including around 13,000 students in vocational schools ^c Including around 13,000 students in technical schools ^d Including 29,869 non-Lebanese students

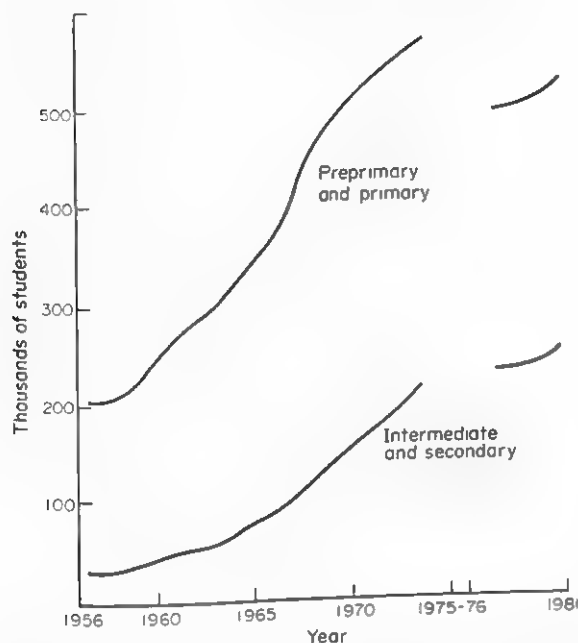


Figure 1
School enrollment 1956-81^a

a Discontinuity in 1975-76 is due to the outbreak of civil war

Lebanese. In these institutions, instruction is offered in Arabic, French, or English, depending on the university and on the subject.

After 1975, the state Lebanese University (LU) opened new branches in the three main regional cities to help students solve traveling difficulties due to prevalent security conditions. This move was followed by the Saint Joseph University.

In addition to the formal education system, a vast spectrum of nonformal programs has gradually developed since independence. The government contributes to these programs mainly through the Ministry of Social Affairs and its affiliated organizations. Programs offered range from technical courses for adults to literacy programs for older people.

The private effort is predominant in nonformal education. It is undertaken by universities, vocational schools, and benevolent associations. The programs offered range from teaching foreign languages to improving the theoretical knowledge of technicians, from acquiring qualifications for jobs to pursuing artistic hobbies, and from caring for the handicapped to encouraging family planning. They are usually successful since they adapt themselves to the needs of the job market but they generally suffer from the lack of government control of standards.

2. Administration and Finance

The Ministry of Education is the only government body responsible for all levels of education. Decisions con-

cerning policy, curricula, national examinations, state schools, and the Lebanese University are centralized in the capital Beirut and applied by regional and local offices. The Lebanese University, the CERD, and the National Conservatory of Music are all responsible to the Ministry of Education. The Center for Educational Research and Development's (CERD) responsibilities are multiple: advising on educational planning, curricula, and school equipment, collecting statistical data on education, running teacher-training institutes, etc.

In contrast to the state system, the private-school system is decentralized. However, private schools have to observe the main lines of the official curriculum and their students have to sit for the national examinations.

In the 1970s, government expenditure on education fluctuated between 16 and 21 percent of the total state budget (between 3 and 6 percent of GNP). In 1979, some 25 percent of expenditure went to higher education, the remaining 75 percent being split almost equally between primary (with preprimary) and secondary (junior and senior high) education.

The preliminary results of a study conducted by CERD in 1979-80 show that, in private schools, parents paid an average of 1,240 Lebanese Pounds (in 1979, US\$1 = LP 3.25 approximately) per child at the preprimary level, LP 1,650 at the primary, LP 2,150 at the intermediate, LP 2,790 in the secondary, and LP 4,350 at university. In the state system, the total costs are, on average, 20 percent less and parents pay close to 20 percent of these costs for books, transportation, etc. Thus, the share of private resources in the total cost of education represents around 1.5 times the state's expenditure.

Very little is done to help parents pay for the education of their children, except at the Lebanese University, where needy students may receive a "national scholarship" that covers part of the cost of living, and at private universities where a limited number of scholarships are offered.

3. Supplying Personnel

The total number of school teachers in Lebanon in 1979-80 reached 52,000. Approximately 16 percent of the total are administrators who have generally acquired on-the-job experience. In principle, there is no shortage of teachers. In fact, internal migration since 1975 has created shortages in some regions in specific subject matters and surpluses in other regions.

Preprimary and primary state school teachers are trained in normal schools run by CERD. Student teachers undergo a 10-month training period after the completion of their secondary studies. Intermediate-school teachers must complete, in addition, a two-year university program in their specialization. The number of normal-school students fluctuates between 1,000 and 3,000 per year. Public secondary-school teachers are recruited from among university graduates and trained for two

years at the Faculty of Education of the Lebanese University. Their number in 1981-82 was 400. State technical-school teachers are trained in a specialized institute at the Ministry of Education.

Preservice training of private-school teachers is available at many universities offering various programs. The effort in this field falls short of the needs.

There is general agreement that more than half of the teachers are underqualified. Many efforts are being made to improve quality, mainly through summer inservice training sessions. However, these efforts lack continuity and are mainly devoted to familiarizing teachers with new curricula such as new mathematics, combined science, etc.

4. Curricula

Changes in school curricula are decided by the government, on proposals put forward by the minister of education, who seeks advice from commissions of experts he nominates. Since 1971, this advisory role has been given to CERD. Once a change is officially approved, it becomes compulsory nationwide, without prior experimentation. No serious effort is usually made to ensure relevance.

Learning materials are written by school and university teachers. Their dissemination follows commercial practices. Their adoption is decided by the school principal and/or by the teacher concerned, except in primary and intermediate state schools where the adoption of "national textbooks," edited by CERD, was decided upon by the ministry.

In state schools, the implementation of the curriculum is ensured by centrally issued directives and by an educational inspectorate. Private schools implement official curricula with some freedom in matters of detail.

Teaching methods at all levels of education vary with the school and the teacher. They range from traditional to the most modern methods.

5. Examinations

The promotion of a student to a higher grade is decided by the teachers and the school except at the ages of 15, 17, and 18, when national examinations are administered. At the age of 15, students may sit for the *brevet d'études moyennes*, a diploma examination which entitles its holders to enter technical schools. Passing of the two *baccalauréat* examinations (at the ages of 17 and 18) is required for university entrance.

Baccalauréat examinations have lately been under criticism for not having evolved significantly since they were established in the 1930s. The type of questions asked encourages students to memorize facts. The examinations are highly selective, with a failure rate varying between 40 and 90 percent. Finally, while they are given exaggerated importance, their validity and reliability are debatable.

6. Educational Research

Educational research in Lebanon was conducted traditionally at university departments of education and consisted of student research projects towards an M.A. degree and of individual research projects conducted by faculty members. Basic studies were also produced at the educational research office of the Ministry of Education. With the establishment of CERD in 1971, studies related to the national development of education were given priority.

The research effort covers a wide spectrum of subjects: curricula, teaching methods, teacher training, educational psychology, etc. It is characterized by its dispersion, by the lack of communication between researchers, and by the absence of sizable teams. Research methods vary with the researchers but the sociological approach became predominant during the 1970s.

7. Major Problems

Until the war conditions prevailing at the time of writing (1982) are brought to an end, it is difficult to predict future educational problems. In addition to the task of repairing the partly destroyed infrastructure, the system will have to face many of the same problems as it has at the beginning of the 1980s.

The absence of a planned educational policy since independence allowed the educational effort to grow in a random way, without consideration for the socioeconomic needs of the society. This is evident in the low proportion of technical students, despite the high demand for technicians.

The weakness of successive governments and the inertia and centralization of the administration have made it difficult to improve the quality of teaching, particularly in state schools and subsidized private primary schools.

Other problems stem from the pluralistic character of the society. For political and cultural reasons, scientific subjects are generally taught in a foreign language whose mastery by some groups of students is not always adequate. For the same reasons, agreement has always been difficult to attain on social sciences curricula; thus curricula rarely change.

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Lesotho

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The Kingdom of Lesotho, formerly the British protectorate of Basutoland and independent since 1966, is an enclave of 30,350 square kilometers (11,715 square miles) within the Republic of South Africa. It is a mountainous country, ranging in altitude from 1,500 to 3,300 meters, with less than 12 percent of land area suitable for crop agriculture. The climate is generally mild, although occasionally cold and even snowy in the mountains. Problems of erosion due to climate, topography, and overgrazing are among the most serious in the world, with as much as 1–2 percent of the arable topsoil lost annually.

The population is estimated at 1.3 million and growing at a rate of 2.3 percent per year. Population density varies considerably from the lowlands, which are densely populated, to the unpopulated high mountains. Ethnically and linguistically, the country is notably homogeneous, with 85 percent of the people from the Basotho group and 15 percent from the Nguni. The proportion of Europeans is vanishing. The people are generally referred to as Basotho. Their single native language is Sesotho, which together with English is the official language. Because large numbers of Basotho men have migrated to South Africa as temporary laborers, the population displays a predominance of women, which is reflected in their significant role in a variety of domestic and political affairs.

In political structure, the nation is a hereditary monarchy headed by a king who has little official political power. The active head of government is the prime minister assisted by a cabinet of 11 ministers. Traditional powers (such as land allocation or adjudication of minor disputes) are exercised by the principal chiefs and their representatives. There are 22 principal chiefs, all of whom sit in the National Assembly, together with 60 other nominated members. For administrative convenience, the country is divided into 10 districts, each under a district commissioner.

Lesotho has few natural resources other than small mineral and diamond deposits, hydroelectric potential, and beautiful scenery. The country is overwhelmingly rural and agricultural: about 90 percent of the population live in rural areas, and subsistence agriculture (including animal husbandry) is the main activity of 85 percent of the resident population. According to the United Nations classification, Lesotho is economically among the least developed countries in the world. Its per capita gross domestic product (GDP) in 1979–80 was estimated at US\$230. However, at the same time

its per capita gross national product (GNP) was about US\$410, the difference resulting mainly from migrant workers' remittances. Still, the level of GNP remains low, though, despite its real growth rate of 5.9 percent per annum in the 1970s, comparing favorably with most other African countries.

In 1980, the distribution of the labor force was 36 percent in agriculture, 49 percent in the mines and industrial sector of South Africa, 9 percent in the services sector, and 6 percent in industry. The most striking feature of Lesotho's employment pattern is that almost half the labor force is employed in neighboring South Africa, and that only 4 percent of these are women. While it is to be recognized that close exchange with a far more industrialized and affluent neighbor may have its beneficial effects (in the form of well-established services, disciplined economic organization, and a high level of earnings), some consequences of this relationship are seriously detrimental. Thus, for instance, only a relatively small fraction of earnings abroad is benefiting Lesotho's domestic economy. Development planning based on such external premises may be extremely risky, not to mention the social and political problems such a situation creates in the long run. In short, this situation has two main components. First, Lesotho is economically highly dependent on South Africa. Not only have the migrant labor remittances amounted to an average of 40 percent of the GNP since 1975, but receipts from the Southern Africa Customs Union (of which South Africa is a dominant member) have accounted for 70 percent of total government revenues; also, about 90 percent of imports and tourist visits come from South Africa. Such dependency makes the country's economy vulnerable to forces almost entirely beyond its own control. Second, the notable absence of males from the country's society and economy has an effect on the total pattern of life and culture, and, in particular, such an absence of able-bodied workers, many of them with skills, tends to diminish the effectiveness of measures aimed at promoting domestic development, including education.

As in many parts of Africa, schooling was introduced by European missionaries. The Evangelical Missionary Society arrived in 1833, followed by Methodists. By 1862, the Paris Evangelical Mission had established 50 schools, and by 1930 there were more than 800 primary schools, with a school within walking distance of most children's homes. The success of this effort is reflected in the fact that today more than 60 percent of the adult

population are estimated to be literate. Education has been identified as a priority area by the government, and long-term efforts have been launched in order to gear educational development towards the personnel needs of the nation and to improve the quality and overall efficiency of the system through strengthened government inputs, such as enhanced teacher education and more intense supervision and advice. Primary-school curriculum development is the object of a total revision. In secondary schools curriculum revision is focused on mathematics, science, and practical subjects. Nonformal education is also seen as an important tool for national development.

1. Structure and Size of the Education Effort

Education is still a joint venture between the government and the churches. The latter own and operate 97 percent of the primary and 86 percent of the secondary schools, while the government provides overall supervision and pays teachers' salaries, and finances their inservice training as well as a substantial proportion of the running costs of primary schools. The Roman Catholic Church manages some 42 percent of the schools, the Evangelical Church 41 percent, the Anglicans 14 percent, and other groups and government the remaining 3 percent.

Formal education in Lesotho consists of 7 years of primary education (standards 1 to 7), 5 years of secondary education, and 4-6 years of higher education. The administrative, financial, and academic control of the system is vested in the Ministry of Education, Youth, Sports, and Culture which trains, appoints, and pays teachers, administers examinations, reviews and authorizes curricula, opens and closes schools, and inspects their operation. Although the National University of Lesotho (NUL) is administered by an independent board, the ministry provides the bulk of its recurrent budget. In addition to general education, the ministry administers the programs of (junior-secondary level) vocational schools, (senior-secondary level) technical schools, the National Teacher Training College (NTTC), the Commercial Training Center (CTC), and the Lesotho Distance Teaching Center (LDTTC). Additional special training programs are operated by the prime minister's office, the Ministries of Agriculture, Commerce and Industry, Rural Development, and Health, and in the industrial sector by the Lesotho National Development Corporation (LNDC).

Primary education, consisting of standards 1 through 7, is conducted in Sesotho for the first four years and mainly in English thereafter. Lesotho is already providing virtually universal access to primary education. In 1980, total enrollments were about 247,000 students, equivalent to 122 percent of the corresponding female population and 82 percent of the male population aged 6 to 12, with about 35 percent of these enrollments being overage. The employment of boys in herding

livestock accounts for the lower male enrollment rate. The present situation, however, represents a substantial improvement from the recent past: average age of entry is dropping rapidly, and more males are attending school. In 1975, girls outnumbered boys by almost 50 percent but this predominance was reduced to 34 percent by 1979. In 1980, 40 percent of the 60,000 students starting standard 1 in the 1,080 primary schools could be expected to complete standard 7. In the same year, about 61 percent of the candidates passed the standard 7 (primary-school leaving) examination, with about 64 percent of these continuing in secondary education. The all-Basotho teaching force of some 5,000 in 1980 gave an overall pupil/teacher ratio of 49:1. Of these teachers, about one-third were unqualified by government standards.

General secondary education consists of three junior-secondary grades (8 to 10, forms A to C) and two senior-secondary grades (11 and 12, forms D and E). The language of instruction throughout the general secondary cycle is English. In 1980, some 24,000 students were enrolled in the 108 schools, representing 15 percent of the male population and 19 percent of the females aged 13 to 17. Boys accounted for 40 percent of these enrollments, being outnumbered by girls in every grade. According to national statistics, the 1979 enrollments at form A level represented about 14 percent of the beginners at standard 1 in the same year and some 44 percent of the terminal primary-level (standard 7) enrollments. In 1979, 48 percent of students who had begun secondary school in 1977 reached grade 10, and of them, 70 percent passed the terminal (Junior Certificate) examination. Of those who passed this examination, 54 percent continued their studies in grade 11, with 26 percent passing the terminal (grade 12, Cambridge Overseas Schools Certificate) examination in 1981. Thus, despite a gradually increasing student flow through the system, dropouts remain a problem. At the secondary-education level, where parents must pay considerable school fees, most of the discontinuations occur for economic reasons. Also, after a rapid quantitative development from 60 schools in 1975 to 108 in 1981, the immediate trade-off seems to be in terms of quality, since both of the terminal (Junior Certificate and Cambridge) examination results have demonstrated a decline in level of achievement.

The secondary-education teaching force, numbering about 1,100 teachers in 1980, gave a pupil/teacher ratio of 21:1. Of the teachers, 21 percent were considered unqualified and 10 percent underqualified (having qualifications for lower level teaching).

Practical and vocational courses are available after primary and lower-secondary education, consisting of two to four years of training. Vocational training in industrial arts and home economics is offered in 13 junior-secondary-level schools; technical education is offered in 5 senior-secondary-level institutes. These are mainly under government auspices. In 1978, the Lesotho Opportunities Industrialization Center (LOIC) was

established in the capital Maseru. The center provides vocational and technical training for primary- and secondary-school dropouts and unskilled adults and has an upgrading scheme for the underemployed. It also provides on-the-job training, work counseling, and placement assistance to all of its trainees. A large percentage of these are former miners, who have work skills acquired in South Africa, but without formally recognized qualifications. Some 85 percent of the trainees passed Trade Test C level in 1981.

In 1980, total enrollment in vocational and technical courses numbered 1,650, of which over one-third were in home economics, about one-fourth in construction trades, and smaller numbers in motor mechanics, engineering, and secretarial and administrative skills.

Agricultural education is offered at the postprimary level at six farmer training centers (with a total of 180 students) and at the Lesotho Agricultural College (LAC). In 1980, the Lesotho Agricultural College offered certificate-level training for some 100 students and diploma-level courses for 64 students. The latter are taught under the dual sponsorship of the National University of Lesotho and the agricultural college and are considered as the first step in establishing an agricultural faculty at the former. In addition, basic agricultural techniques are taught at the Lesotho youth centers and at the farmer training centers.

Nonformal education courses are provided by the Ministry of Education mainly through the Lesotho Distance Teaching Center (LDTc), as well as by four other Ministries (Agriculture, Health, the Interior, and Rural Development). Courses are also provided by the prime minister's office, the National University of Lesotho, a great number of nonstatutory agencies, and by various church and voluntary organizations, but with little cooperation among the agencies.

The LDTc aims to provide correspondence courses to sponsor educational radio programs, to assume responsibility for the Ministry of Education's adult nonformal education programs, and to provide support to mass media in Lesotho, including government radio broadcasts. The LDTc has undertaken surveys in radio use, newspaper distribution, literacy levels, and effective demand for basic knowledge and literacy/numeracy programs. It has started literacy/numeracy programs for out-of-school youth, with a total of about 750 candidates sitting the Junior Certificate and Cambridge examinations with a 70 percent pass rate. The LDTc has also provided support services and educational materials for the inservice training of unqualified teachers at the National Teacher Training College.

Higher education is provided by the National University of Lesotho, which was established in 1975, on separation from the tripartite University of Botswana, Lesotho, and Swaziland. It offers courses in the humanities, social sciences, education, law, and natural sciences. It had a total enrollment of 1,150 students in 1979. This represents less than 1 percent of the corresponding age groups at the narrow apex of

Lesotho's broad-based and quickly tapering pyramid of formal-education attendance.

Since 1979, all students qualifying for university study have received a loan from the government, which replaced the free fellowship program existing previously. In addition to those who attend the university, about 320 students (in 1980) received fellowships to study overseas at universities or other institutions for higher education. An ambitious plan of expansion was completed in 1982 involving, among other things, the building of a campus for the Institute for Extra-mural Studies in Maseru to cater for part-time students enrolled in the leadership, cooperative, business, and management courses.

2. Administration and Finance

The Ministry of Education, Youth, Sports, and Culture is headed by a minister, who is a political appointee, and by a permanent secretary for education, who is a civil servant. The ministry has an administrative division (headed by a deputy permanent secretary) and planning, professional, and sports and culture divisions. Furthermore, certain educational institutions (such as the National University of Lesotho, the National Teacher Training College, the distance teaching center, and the UNESCO National Commission), are directly subordinate to the permanent secretary. The professional division, headed by a chief education officer, is in charge of formal and nonformal education. Its school section, under a principal education officer, includes the curriculum development unit, examinations unit, and the inspectorate. The latter has both central and district-level functions. Each of the 10 districts has its local office, with education officers who are directly responsible to centrally placed circuit officers. The sports and culture division includes sections for the Sesotho Academy, the National Library, Archives and Museums, and the National Sports Council.

The costs of education in Lesotho are borne by the government, parents, and private institutions. Government expenditures on education amounted to over 25 percent of the state budget in 1975-76. In addition, students must purchase their books and supplies and, at the secondary level, pay substantial school fees. In 1974, as a means of exerting greater influence on the educational system, government began paying teachers directly, instead of giving grants-in-aid to schools.

There is reliance on outside economic assistance. In the mid-1970s, about 60 percent of the actual capital expenditure on education was donor based, and the cost of expatriate personnel and fellowships corresponded to approximately 40 percent of current expenditure.

3. Curriculum

A primary curriculum unit was established in 1974, and in 1978 this became the National Curriculum Development Center. A general curriculum-development

policy was finalized in 1980, and a complete review of all primary syllabi was in its final stages in the early 1980s. At the secondary level there has been regional cooperation between Botswana, Lesotho, and Swaziland in conducting junior secondary examinations since the late 1950s, and this has necessitated attention to curricular issues. There is a series of regional subject panels, which have been active in developing curricula along common lines.

The primary-school curriculum includes Sesotho (the mother tongue), English, mathematics, social studies, health/science, and agriculture. In order to remedy the shortage of learning materials (only 30 percent of the students have books), the government is now supplying standard textbooks in the three core subjects to all primary students in exchange for a nominal book-usage fee.

Originally, the secondary-school curricula consisted mainly of academic subjects, theoretically conceived. However, since 1976, there has been greater emphasis on linking the courses of study to the nation's needs. As a consequence, a course in agriculture has been introduced in a number of schools, and a special development studies program (also involving practical work, with elements of history, geography, and economy involved) has been available. The new curriculum also provides training in woodwork, drawing, cooking, and sewing. There is, however, a good deal to be done, particularly the provision of a coherent curricular sequence throughout the two levels of secondary education.

The Lesotho model of curriculum development has been described by Rees (1982) as one in which the teacher is seen as the key person in the process, in partnership with other support systems. Such a "linkage model" involves the coordinated work of the National Curriculum Development Center, the trial schools, and the support systems. The latter include agencies such as the Ministry of Education with its inspectors, the National Teacher Training College, the National University of Lesotho, the subject panels, the Instructional Media Resource Center, and consultants on various issues.

4. Educational Personnel

Primary-school and lower-secondary-school teacher education is provided by the National Teacher Training College, which was opened in 1975 in Maseru, in response to a long-felt need for a large national institution for unified teacher education. The previous seven colleges, all more or less understaffed and ill-equipped, were phased out in favor of the new institution aiming at modern teacher education, both pre-service and inservice. The college offers three courses, leading to the Primary Teacher Certificate (PTC), the Advanced Primary Teacher Certificate (APTC), which upgrades certified primary teachers to qualify as school principals, and the (Junior) Secondary Teacher Cer-

tificate (STC). Entrance requirements are the Junior Certificate for the PTC and APTC courses, and the Cambridge Overseas Schools Certificate for the STC course. As a special feature, the college's courses involve a supervised internship year during the second third of the three-year program (which also creates opportunities for bringing in less qualified teachers from the field to study at the college). In 1980, this internship program had 30 field staff and about 240 students working in the country's schools. After such experience, students are able to benefit greatly from their final-year of studies at the college. Microteaching as an integral part of the training, the development of self-instructional materials, and the compilation of a test item bank are among other activities in the program, from which, in 1980, 180 PTC-holders, 37 APTC-holders, and 42 STC-holders graduated from its preservice courses, and a further 125 from its inservice programs.

Senior-secondary teacher education is the responsibility of the Faculty of Education at the National University of Lesotho. The university offers a special education degree, consisting of two undergraduate years, supplemented by two years in education. There are also two postgraduate degrees available, the Bachelor of Education and the Master of Education. In 1977-78, the university launched two special programs, one to train more mathematics and science teachers, the other to train teacher educators and supervisors for the Teacher Training College and the Ministry of Education's inspectorate.

Quantitative expansion of the teaching and supervisory force has been in process since the late 1970s. In secondary education, it is expected that the share of qualified teachers will reach 80 percent in the early 1980s, while the initially less favorable situation in the primary grades, together with a continuing high demand for student places, will keep the share down to about 55 percent. Concomitantly, there has been an increase in the inspectorate staff from 9 in 1977 to 62 in 1982.

5. Major Problems

Lesotho is an example of a general geopolitical environment influencing the process and progress of education. It has little natural resources to depend on, and the people's basic agricultural livelihood is suffering from erosion and lack of a full village life, resulting in a state of deprivation regarding essential resources, both human and material. Its surrounding affluent neighbor exerts multifaceted influences which are difficult to turn into educational advantages. The relatively few paying jobs in Lesotho's economy, compared with various earning opportunities across the border, attracting people with or without education, drain the country of its keenly needed human potential. In such a situation, educational efforts may seem costly and futile. Yet they are increasingly necessary in order to compensate for the disadvantages. A vicious circle is created.

Within the country, demand for middle-level and

technical personnel has inflated educational aspirations, involving ever higher levels of study. As a consequence, the issue of quality versus quantity has become burning. Although this problem has been identified, the desire to provide education as a social service has been overriding. The efforts for improvements in teaching training, curriculum development, nonformal education, and supervision have been intense and increasingly consistent. It remains to be seen what these investments will bring as returns.

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Liberia

R. Duberg

Liberia is situated between the fourth and ninth latitudes north of the equator on the African west coast, bounded by the Atlantic Ocean, Guinea, Sierra Leone, and Ivory Coast. Almost 60 percent of the surface is covered by forest, mainly evergreen rainforest. The climate is tropical with an average temperature of 21 to 28°C, and a humidity of about 90 percent.

Based on the second census of Liberia, which was taken in 1974, the population growth rate is 3.3 percent. The number of inhabitants in 1986 was 2 million. Some 70 percent of the population is rural. One-third of the urban population, or approximately 200,000 people, live in the capital city Monrovia.

There are two groups of people forming the country which today is called Liberia: those whose ancestral origins are in Africa but were either born as slaves to the United States or illegally imported as slaves to the United States, and later returned to Africa, and those who have their roots in Africa and never left, but formed tribal empires and African societies in the western part of Africa. The first group, the freed American slaves, have until recently dominated the histories of Liberia as the elite who founded the Liberian Republic. The second group, whose early history is less well-known, has been dominated by the Americo-Liberian elite and has lived in a kind of concealed animosity towards this elite, and is often referred to as the people of the interior or the tribal people. This group took over the government through a military coup in April 1980. In 1985, Liberia was returned to civil rule. An election was held in October 1985, which brought the National Democratic Party of Liberia (NDPL) into power. In January 1986, the former general and head of state Samuel K. Doe was inaugurated as president.

The True Whig Party governed Liberia from when the republic was established in 1848 up to the revolution

in 1980. It was effectively the only party until the period of unrest during the 1970s. The People's Alliance of Liberia (PAL) emerged in 1973 and was officially declared an opposition party under the name of the People's Progressive Party (PPP) in December 1979. On April 12, 1980, a group consisting of noncommissioned officers and lower rank commissioned officers in the Liberian Army overthrew the government in protest against nepotism, corruption, and abuse of office. President Tolbert was murdered in this first coup d'état in Liberia. The constitution was suspended and the People's Redemption Council (PRC) took over the executive and legislative powers. Master Sergeant Samuel Kanyon Doe became chairman of the People's Redemption Council and Head of State.

Liberian villages normally contain a number of unrelated lineage groups which hold the farm land and settlement. These groups are each based on a body of close kinsmen related to the line of land inheritance. The group that arrived in any area first is regarded as senior, and the head of this group enjoys some degree of authority over the total community. Besides being responsible for the administration of the land, the headman has a special ritual relationship to the land. This ritual relationship is sometimes explained as his being the priest of the earth cult which sanctions communal morality and law. Authority in the rural village seldom goes beyond that of the headman and the council of elders at the local level (Horton 1971).

A simple form of organization that cuts across the African village life is the age-grade system. In such a system the male adults are normally divided into elders and young adults but sometimes, and more seldom, into elders, middle-aged, and young adults. The system is naturally based on age sets, whereby members move from one grade to the next with increasing age.

The secret societies, Poro for men and Bundu (or Sande) for women, have in the past had strong judicial and political influences on village life. Through a traditional school system and other village activities the secret societies transmit the tribal culture from one generation to the next (Duberg 1978). It is well-known that sanctions applied by the society to offenders against community law were, in particular in the past, executed by the secret societies (Himmelheber 1964, Horton 1971). The secret societies have lately suffered a reduction in power and importance, although the Poro enlisted new categories of members as recently as during the 1970s (Zetterström 1976). The government in Liberia has taken strong measures to reduce the power of the secret societies.

As has already been pointed out, 70 percent of the Liberian population is rural. The rural economy is based primarily on subsistence agriculture, animal husbandry, forestry, and fishing (86 percent in 1974). Industrial production and transportation occupy slightly over 6 percent of the rural population. All other occupational groups involve small numbers. Traditional agriculture includes hill rice cultivation. During the 1970s different methods of rice production were introduced, such as irrigated paddy and swamp-rice projects. Despite these attempts Liberia has not reached self-sufficiency in rice production. In 1980 approximately 50 percent of the rice consumed in Liberia was imported at a cost of US\$30 million.

Some 30 percent of the Liberian population live in urban areas. One-third of this group is occupied within the field of industrial production and transportation. An additional 20 percent of the urban population are employed within the agricultural sector. Services, sales, and professional workers each represent nearly 10 percent (Liberia 1977). Liberia is today dependent upon a few primary commodities such as iron ore, rubber, timber, and diamonds. These commodities are exploited mainly by multinational companies and exported. Despite increases in export income during recent decades, Liberia has not yet been able to develop the rest of its economy.

With regard to external trade, the value of exports increased between 1958 and 1977 from US\$53.8 million to US\$447.4 million, or by 38.5 percent per annum, due mainly to the increased export of iron ore. The value of imports during the same period increased by 57.8 percent per annum. This high increase in imports is due mainly to investments in two large iron-ore mines during the early 1960s. From 1964 to 1976, the trade balance was positive and climaxed in 1973 by a surplus of US\$130.5 million (Hasselman 1979). After a sharp decline in the trade balance between 1973 and 1977, resulting in a negative trade balance in 1977, the trend again became positive.

As a result of the Open Door Policy, introduced by President Tubman in 1944, 37 percent of the gross domestic product (1979) is generated from foreign companies.

1. Goals of the Educational System

Educational goals during the late 1970s included:

- emphasis on the development of human resources;
- expansion of the number of community schools in the villages; and
- plans to make teaching more effective and more relevant to the needs of the country. These plans include: revision of the curriculum, increase in the number of teachers, improvement of teaching standards, making the teaching profession more attractive, and improvement of higher education, in particular in the field of science and technology.

An analysis of the education sector, undertaken by the Research and Analysis Unit of the Manpower Planning Division (Liberia 1979b), revealed inefficiency in the formal educational system, resulting in low standards, and lack of coordination in planning and management of education and training. A number of proposals were put forward to deal with these issues (Liberia 1979b).

After the 1980 revolution, the Ministry of Education pointed out the necessity of restructuring the educational establishment in order to provide direction in the new era and transform anachronistic values and attitudes. The new educational values must correspond with the new framework of society. The focus of educational reorientation should be on the productive growth and economic emancipation of the nation. As a first step in the restructuring of the educational establishment towards education for self-reliance, it is suggested that vocational and technical education be made mandatory in all high schools in the country, thereby providing some of the personnel needs of a society in the early stages of industrialization. To provide an incentive for quality education and to make the teaching profession more attractive, a new salary scale for teachers is suggested. It is also proposed that the University of Liberia and Cuttington University College ought to be regarded as the main centers for personnel development in the country and be given adequate financial resources in order to upgrade their standards, improve their productive capacity, and turn out graduates with the orientation, dedication, and ability for national development. To finance these plans the Mini-

Table 1
Net enrollment ratios by age and sex 1977 (%)^a

Age range	Male	Female	Total
6-11	44.1	28.1	36.0
12-17	58.3	23.5	40.8
18-23	9.0	3.1	6.0

^a Source: World Bank 1980 pp. 110-11

Table 2
Highest grade completed by those 5 years of age and over, by sex and region 1974 (%)^a

Educational level	Total	Male	Female	Urban	Rural	Rural female
No grade completed	79.7	72.2	87.5	59.8	88.0	94.1
Grade 1 completed	1.6	1.9	1.3	2.8	1.1	0.7
Grade 2 completed	1.6	2.0	1.2	2.9	1.1	0.7
Grade 3 completed	2.4	3.1	1.7	3.7	1.9	1.1
Grade 4 completed	2.3	3.0	1.5	3.5	1.7	0.9
Grade 5 completed	1.8	2.5	1.1	3.1	1.3	0.6
Grade 6 completed	2.0	2.8	1.2	3.6	1.3	0.6
Grade 7 completed	1.5	2.1	0.8	2.9	0.9	0.4
Grade 8 completed	1.7	2.4	0.9	3.5	0.9	0.3
Started grades 9-12	4.5	6.7	2.3	11.6	1.6	0.5
Started college	0.9	1.3	0.5	2.6	0.2	0.1
Reported illiteracy rate, those age 10 and over	79.0	70.4	87.8	57.5	87.9	94.3

^a Source: Liberia 1977 pp. 93-101, 106-8

stry of Education suggests that Liberia follow the trend adopted in most independent African states and allocate 30 percent of the national budget for education (Liberia 1980b).

2. General Structure and Size of the Education Effort

The basic educational system includes a six-year elementary school (grades 1-6), preceded by a preelementary program including kindergarten and pregrade classes and followed by a junior and senior high-school program and followed by a junior and senior high-school program of three years each (grades 7-12). Some 36 percent of the children of 6 to 11 years of age are attending schools. The net enrollment ratios by age and sex are shown in Table 1. The relatively low enrollment ratios should be seen against the background described above. The most disadvantaged group of students is the rural girls. In 1974, only 6 percent of this category had completed grade 1 or higher.

Table 2 shows the highest grade completed for various categories of the Liberian population. The table also shows the illiteracy rate for the population 10 years of age and older. Due to lack of educational traditions at home, unfamiliarity with the language of instruction (English) when entering school, shortage of qualified teachers, and inadequate programs, the students in general have to spend several years in preelementary school before entering grade 1. In 1984, almost 30 percent of the student population were enrolled in preelementary schools (Table 3). The pregrade classes, which constitute slightly more than half of the student population in preelementary school, are an extension of the kindergarten program, intended to prepare the children for grade 1. Language training is a substantial part of this program.

In 1984, Liberia had 1,800 elementary and secondary schools with 9,000 teachers and 277,000 students (60 percent boys and 40 percent girls). Table 3 shows the distribution of students by school level. During the period 1972 to 1980, the enrollment in secondary schools almost tripled. A contributing factor might be that tuition fees were dropped in 1972. Between 1980 and 1984, however, the secondary school population increased by less than 10 percent, mainly due to financial constraints. Only 33 new schools were established in Liberia between 1981 and 1985. During the period 1974 to 1986, the enrollment in elementary schools rose from 150,000 to 220,000. Clearly, the huge effort to expand the number of community schools in the villages (close to 200) have contributed to this increase in enrollment. Of the schools in Liberia, 65 percent are public, 20 percent mission, and 15 percent other (e.g., private companies). Student distribution follows approximately the same percentages.

There are two major vocational and technical schools under the supervision of the Liberian Ministry of Education (the Booker Washington Institute and the Liberian-Swedish Vocational Training Center). Their

Table 3
Distribution of students by school level 1984^a

School level	Number of students	%
Preelementary	73,419	27
Elementary (1-6)	147,447	53
Junior high 7-9	34,848	12
Senior high 10-12	21,676	8
Total	277,390	100

^a Source: Liberia 1984

total enrollment is 1,300. The number of graduates in 1980 was 385. The trades represented are: auto, electrical, mechanical, general woodwork, agricultural, bookkeeping, masonry, plumbing, and secretarial science. In addition to these formal training institutions, there are a number of vocational-training programs attached to and run by the various industrial enterprises in the country.

Two rural teacher-training institutes (Zorzor and Kakata) enrolled 312 students in 1984. The majority are enrolled in a two-year postsecondary school program. More than 85 percent of the students are male. A teacher candidate has a choice of specializing in elementary or secondary education. In secondary education, there is a further choice of majoring in science and mathematics or in language arts and social studies. All students graduating from the rural teacher-training institutes are, regardless of the level they are trained for, awarded the Professional B Teaching Certificate, which entitles them to teach in elementary or junior high school.

As can be seen in Table 2, less than 1 percent of the Liberian population attended college or university in 1974. The number of graduates from the University of Liberia and Cuttington University College in 1980 was slightly below 400. Almost 40 percent of the graduates had been in business studies. Science and technology, education, and agriculture and forestry were represented by 10 percent each. The remaining 30 percent were in the fields of law, medicine, social sciences, nursing, and theology.

Besides the formal school system, substantial efforts were made in Liberia during the 1970s to extend the nonformal educational program. All community schools, for example, are meant to serve as a nucleus for community development while also providing work-oriented skills in agriculture, home economics, arts and crafts, and manual arts, together with the regular academic courses.

In 1977, the Liberian National Adult Education Association was founded as a voluntary body with the aim of assisting the division of adult education at the Ministry of Education in performing its responsibilities effectively and efficiently. The association has gained membership in the African Adult Education Association. There are 300 adult education instructors, more than 6,000 adult learners, and a number of supervisors presently assigned to the various counties in Liberia. Considerable assistance has been given to the division by the World Bank in the form of jeeps for transportation and fellowships for the study of adult education in other countries.

A number of comprehensive health programs have been undertaken on a nationwide basis. The aim of these programs is to provide health services to the rural areas where the bulk of the people live. Programs to provide safe drinking water and toilet facilities are associated with these health programs. A number of village health workers have been trained. In order to

prevent blindness and to restore eyesight a National Eye Care Program has been started.

3. Administrative and Supervisory Structure and Operation

The Ministry of Education of the People's Redemption Council is the highest educational authority in the Republic of Liberia. It sees itself as the social institution to promote, through good instruction and fine example, the principles of freedom, justice, and equality (Liberia 1980a). It provides administrative services required for the offices and field operations of the ministry.

The Bureau of General Supervision, headed by an assistant minister for general supervision, is responsible for all instructional and supervisory activities, and for school administration from the preelementary level to grade 12. Assisting the assistant minister are three senior regional supervisors, each one responsible for a region consisting of three counties. On the local level the schools are headed by principals and vice principals.

The administration and supervision of instruction in technical and professional/vocational institutions and of the teaching of science is entrusted to the Bureau of Professional and Technical Education. This bureau, which is headed by an assistant minister for professional/technical education, has six divisions: (a) vocational/technical education, (b) science education, (c) teacher education, (d) home economics, (e) media education, and (f) music education.

The relatively high percentage of nonpublic schools that are operated by various missions and private enterprises are, with only a few exceptions, subordinate to the Ministry of Education (35 percent of elementary and secondary schools are nonpublic).

4. Finance

With a gross domestic product (GDP) per capita of US\$386 in 1979 (at constant 1971 factor costs), Liberia can be placed among the lower-middle income countries (countries with an annual per capita income of US\$265-520 in 1975 prices).

The allocation for education rose from 11 percent of the national budget in 1974 to 15 percent in 1979 or, in absolute figures, from US\$12.1 million to US\$44.0 million. The allocation for 1980 was reported by the government of the People's Redemption Council to be US\$36.5 million or approximately 12 percent of the national budget. However, the Ministry of Education has requested the government to follow the trend in some other African States and allocate 30 percent of the national budget for education (Liberia 1980a, Aklilu Habte 1980). In 1984, the allocation was increased to US\$74.2 million. Expenditure on education was, however, less than half of that amount (US\$33.9 million).

As 35 percent of the elementary and secondary schools in Liberia are nonpublic, a substantial amount of money is further invested in education by mission organizations and private enterprises. Primary and secondary state education in the country is free (secondary education since 1972). Costs for tuition and books at the university level are subsidized by the government.

In the field of vocational and technical education, significant investments have been made by the larger industrial companies in the country. For example, the Liberian American-Swedish Minerals Company, which accounts for approximately 12 percent of GDP (1979), spent close to US\$50 million on training, education, and health from the mid-1950s to 1980 (Duberg 1982).

During the 1970s, a number of extensive educational projects have been carried out with technical assistance and loan or credit from the World Bank and its soft-loan affiliate, the International Development Association (IDA). The total cost of the projects amounts to US\$24.5 million, of which World Bank and IDA loans or credits amount to US\$17.5 million. The projects include: primary and secondary education, teacher training, adult education, curriculum development, textbook production, agricultural education, forest-ranger training, vocational and technical education, and management of education and training. The IDA credits were received in 1972, and the World Bank loans in 1976 and 1977. A new World Bank project (Program IV) started in 1982. Additional loans and grants have been received from the African Development Bank and the European Economic Community.

5. Supply of Personnel

According to available statistics, there are slightly over 9,000 teachers in elementary and secondary schools in Liberia. The teacher/student ratio is statistically 1:31. However, since there was no program for teacher certification until 1979, the schools have been filled with unqualified teachers. An office was set up in 1979 for a coordinator of teacher certification. A national survey, which also started in 1979, confirms that one of the stumbling blocks in Liberian education is the insufficient number of qualified teachers. In 1980, 40 students graduated in the field of education at the University of Liberia and Cuttington University College. The total enrollment of the rural teacher-training institutions in 1980 was 580. The graduates of these latter institutions have a relatively low level of education and are trained mainly to teach elementary students in the rural areas. A reorganization of the teacher-training program, including an intensive inservice program for teachers at different levels, is aimed at improving the present situation. Shortcomings in terms of educational leadership are long-standing problems in Liberia. The World Bank project on the development of management in education and training, initiated in 1977, is intended to facilitate high-quality leadership in the Liberian schools.

6. Curriculum Development and Teaching Methodology

The National Curriculum Development Center of the Ministry of Education includes 10 large and 4 small county curriculum centers in addition to the national center in Monrovia. The centers serve as extensions of the ministry's instructional program through the development of curricula materials and the conducting of workshops and seminars for teachers. The centers are also used voluntarily by teachers and students for research and materials development. Through the assistance of UNICEF, several centers have received needed equipment, library books, and means of transport. The activities of the centers are highlighted by newsletters which are distributed to the schools. The centers are staffed by Liberians and Peace Corps volunteers.

A program on curriculum revision started in 1973 to make teaching more effective and more relevant to the needs of the country. Distribution of a new curriculum for the elementary level commenced in February 1980. In order to orient a selected group of teachers, supervisory personnel, and curriculum coordinators in the use of the revised curriculum, a number of seminars have been held at the teacher-training institutes. The seminars have also been intended to provide guidelines for the work-oriented subject curriculum and to organize master teacher groups to conduct local implementation workshops.

A completely revised curriculum for the secondary level has gradually begun to be implemented since 1981.

7. Examinations, Promotions, and Certification

Whether a child should enter school or not has in the past been determined by a number of factors:

- Sex:** traditionally it has been considered of higher value to have boys educated than girls, as the females' function in society has been to raise children, handle domestic duties, and work on the farm.
- Region:** the availability of schools and educational traditions have varied from region to region and, in particular, between rural and urban areas.
- Accessibility of cash money:** the costs of books, school uniforms, and in certain cases tuition have been an obstacle to education for the majority of people within the subsistence-farming sector.
- Tribal or nontribal background:** in the past it has been substantially more problematic for a Liberian with a tribal background to receive education than, for example, an Americo-Liberian child.

Promotion from one grade to the next has normally been decided by the class teacher in elementary school and by a group of teachers in secondary school. Because

of insufficient knowledge in English, which is the language of instruction, children frequently have had to spend two or more years in preelementary schools before being admitted to grade 1. A system of national examinations has been applied in grades 9 and 12 to decide the achievement level of the individual, the class, and the school. The national examination is used also as an entrance test to higher education. Liberia is a member of the West African Examination Council.

8. Educational Research

Early studies of the indigenous school system in West Africa were made during the 1930s and 1940s. Based on observations mainly in Sierra Leone a study was made in the 1960s of the West African bush school. The traditional school has also been examined in some studies in the 1970s (Zetterström 1976, Duberg 1978).

The establishment of Christian missions in Liberia has had a substantial impact on education. An anthropological study of the cultural context of learning and thinking is reported by Cole et al. (1971). An assessment of public education in Liberia during the 1960s has been made by Carlon (1973). The Harvard Institute of International Development (1976) made a preliminary survey of the educational system in Liberia in 1976. The effect of education on earnings is reported in two recent studies (Lave et al. 1978, Duberg 1982).

The division of research and publication, which is a subdivision of the department of planning and development at the Ministry of Education, has since the mid-1970s been engaged in three major studies: (a) a tracer study of graduates of vocational/technical and rural training institutes; (b) a team of independent researchers from the University of Liberia and Cuttington University College is making an evaluation of the community school program in Liberia; and (c) a study named "The need for an effective adult education in Liberia" was initiated in 1980 with the object of reviewing the adult education program in the country and recommending changes for improvement of the program.

Beginning in May 1980, the Division of Research and Publication started a biannual journal called *The Education Review*. A quarterly newsletter, *The Education Diary*, is also published by the division. In addition, a newsletter called *Educational Perspectives* (first published in 1984) informs teachers about educational policies and school development in the country.

9. Major Problems

The Liberian educational system is today faced with a number of problems, several of which have been indicated above. Some of the most serious difficulties arise from:

- (a) an insufficient number of schools to accommodate the increasing number of students;

- (b) an insufficient number of trained teachers at all levels, and in particular in the fields of science and vocational/technical education;
- (c) low salaries for educational personnel;
- (d) a high attrition rate in the teaching profession;
- (e) insufficient supervision and management of training and education; and
- (f) lack of budget appropriation for salaries, equipment, materials, repair of buildings and equipment, and transportation.

As described above, a number of efforts have been made to solve these problems, including a call on the Liberian government:

- (a) to appropriate a substantial part of the national budget for education;
- (b) to direct educational efforts to productive growth and economic emancipation of the nation;
- (c) to restructure and increase teacher training; and
- (d) to implement new curricula with a higher degree of relevance to the needs of the country.

One major problem which has to be dealt with in the immediate future is the language problem, as many students come to school with a reasonably good background in the speaking of a tribal language but then have to adjust to instruction in a foreign language.

The Department of Planning and Development at the Ministry of Education is presently engaged in a fourth World Bank project with the intention to: (a) improve and expand primary education; (b) establish a technical teacher-training program; (c) improve educational supervision by promoting decentralization of educational management and supervision by providing regional education centers; (d) strengthen curriculum-development and career-guidance services; (e) strengthen program planning, management, and evaluation; and (f) upgrade secondary education (Liberia 1980a).

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Libya

A. Laleh

Libya is situated on the Mediterranean Sea in North Africa between Egypt to the east and Algeria to the west. While the country extends over 1.8 million square kilometers (466,200 square miles), the majority of its 3 million citizens live in the north along the sea coast, since the climate of the regions to the south is severely hot and arid and most employment and educational opportunities are in the north. Two-thirds of the population crowd the coastal capital, Tripoli, and the industrial seaport, Benghazi. In addition, there are 12 other cities along the coast, making Libya one of the most urbanized countries of Africa and the Middle East.

Politically, Libya was an Italian colony until 1942. It was then divided into two regions, governed by the British and French respectively, until gaining independence in 1951 under the monarchy of Idris I. The king was overthrown in 1969 by a coup d'état led by Muammar al-Gaddafi, who became chairman of the country's newly established Revolutionary Command Council.

The 1969 Constitution provided for compulsory, free education through age 14, expanded literacy training,

adult education, and teacher training. A new Constitution in 1977 established the country's official name as the Socialist People's Libyan Arab Jamahiriya, proclaimed Islam's Koran as the nation's social code, and announced the government's adherence to socialism and a commitment to total Arab unity. The Constitution reaffirmed the government's position on education, with school curricula redesigned to preserve the best traditions of Arab Libyan culture and to emphasize national consciousness. The national language, Arabic, has become the language of instruction in the schools. The government has focused attention on modernizing instructional methods, curriculum content, and textbooks so that they may be closely coordinated with the goals of the political and social revolution.

Over the decade of the 1970s, Libya accomplished many of its objectives by means of a strong, stable government and a thriving economy. The country's main natural resource—petroleum, discovered in 1956—has made Libya one of the richest countries in Africa and the Middle East. Revenue generated by the petroleum industry has enabled the government to

provide free medical care to its citizens and implement its free public education policy. Education is viewed as an important instrument for increasing productivity and for developing agricultural, fishing, and tourism industries.

1. Educational Structure and Enrollment Trends

The basic educational system consists of both public schools and private Islamic Koranic schools that focus more on religious subjects. The educational ladder begins with a few nursery schools. The next step is formed by the widespread system of compulsory six-year primary schools. After the primary level, there are parallel tracks of secondary education, with one track offering general-academic studies and the other offering vocational training. The general-academic track consists of a three-year junior high school followed by a three-year senior high school. The vocational track includes a four-year program at the junior-secondary level and three- or four-year programs at the senior-secondary level in commercial, agricultural, and industrial subjects. A junior-secondary track is also provided to train teachers for primary schools and adult literacy programs. Following graduation from the academic senior-secondary school, selected students may enter the University of Libya.

When the Revolutionary Command Council won control of the government in 1969, large sums were invested in the educational system. Existing facilities were expanded and new ones constructed to accommodate the surge in student enrollment resulting from enforcement of the new compulsory education policy.

Boarding facilities were added to schools in remote areas so that nomadic children and those living in small, isolated villages could attend school. As a consequence, the number of children in primary schools rose by 68 percent between 1970 and 1978 (from 350,225 to 587,067). Whereas prior to the 1970s social custom and traditional Islamic attitudes about the education of females greatly limited the number of girls in school, under the universal-education policy the female population of the primary schools soared, rising by 113 percent over the three-year period 1975-78 (from 129,595 to 276,416) (UNESCO 1981 pp. 3.4-3.7).

While the primary schools by the end of the 1970s enrolled over 85 percent of the school-age population, only 40 percent of secondary-school-age students were in attendance, signaling a marked decrease of students attending school following the compulsory primary-school period. The decline in enrollment after primary education has not been as great in the less populated regions of the country as it has been in the major cities of Tripoli and Benghazi.

Enrollment increase over the decade of the 1970s was experienced not only in the civil primary schools but in the private Koranic schools as well.

2. Administration and Finance

The Ministry of Education creates educational policies and enforces their implementation through the supervision of all public and private schools. The ministry's activities are supported by a director of education and technical staff in each of the country's education zones.

Revenues from oil exports finance both public and Koranic schools. In addition, at the higher education level and in technical-training programs, stipends are available to assist students with living expenses. Special private schools attended largely by non-Libyans, particularly by Italians, are financed from the enrollees' own resources.

3. Curricula and Examinations

The role of the six-year primary school is to teach literacy, mathematics, natural sciences, hygiene, drawing, crafts, and physical education. In the final year of primary school, students must pass an examination in order to qualify for entry to a junior-secondary school.

As noted above, the academic track of secondary education consists of a three-year preparatory stage leading to a preparatory certificate and a three-year upper cycle leading to a general-secondary-education certificate. The preparatory curriculum is very similar to that of the primary school. Upon completing the three-year preparatory program, students must pass an examination to qualify for entrance to the upper cycle.

At the upper-secondary level of the academic track, students may choose to continue their studies in either a literary or a scientific program. Language studies at the secondary level include English, French, and Italian, in addition to Arabic. Classes during two of the three years at the upper-secondary level are intended to prepare students for the general secondary-education certificate which is required for entrance to the university.

Following the compulsory six-year primary school, some pupils choose to continue their studies in vocational or technical education programs at the junior-high and senior-high levels.

The curricula of the Koranic schools are similar to those in civil schools, except that Koranic schools give greater attention to the teaching of Islamic and Arabic law.

4. Teacher Education

Qualified graduates of the six-year primary school may enter a four-year general-teacher-training program to prepare them as teachers in primary school and in adult education classes that emphasize basic literacy. The teacher-education sequence consists of two years of general subjects followed by two years of specialization and practice teaching. Graduates receive a general teacher's certificate.

Graduates of the three-year junior-high preparatory school may enter a four-year program qualifying them

to teach at either the primary or preparatory level. Upper-secondary teachers are prepared in the University of Libya's teacher-training colleges.

The 1970s were marked by the expansion of teacher-training facilities throughout the regions. Some of the new facilities are exclusively for women, as the government encourages the training of female teachers. In addition, many centers that previously enrolled only men have been converted into centers for women.

Despite the efforts to increase the supply of teachers, the country still lacks enough qualified teachers, a condition that continues to hinder the nation's educational development. To help alleviate the teacher shortage, the government employs many non-Libyans, especially ones from Arab countries. However, the government is committed to replacing foreign instructors with qualified Libyans as soon as possible.

At the technical and higher education levels, the government has imported foreign experts to train instructors and has encouraged and subsidized training abroad for Libyans in subjects not taught or not adequately developed at the University of Libya.

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Luxembourg

R. Dieschbourg

The Grand-Duchy of Luxembourg, established as a small independent country at the Congress of Vienna (1815), is situated in the very heart of Europe. It has an area of 2,586 square kilometres (998 square miles) and its total frontier is only 356 kilometres (227 miles) long. It is bordered on the east by the Federal Republic of Germany, on the north and west by Belgium, and on the south by France. It has two major geographical regions: Oesling (32 percent of the territory) in the north is hilly and relatively infertile; Bon Pays (68 percent of the territory) in the centre and south includes the capital city of Luxembourg and the iron and steel industrial area near the French border.

The Grand-Duchy has 356,000 inhabitants of which 26 percent are foreigners. Some 14.6 percent live in Oesling, 21.9 percent in the capital, and 31.7 percent in the southern industrial region. The population distribution is no longer in pyramidal form. Table 1 presents a breakdown by nationality. It can be seen that foreigners are increasing in number, especially in the 0-14 age group. This is a serious problem for the educational system. The birth rate is also declining rapidly (30 per 1,000 inhabitants in 1970 to 10 per 1,000 inhabitants in 1980). The number of children born to Lux-

embourg families is constantly decreasing and those to foreign families constantly increasing.

Table 2 presents the numbers of persons employed in the working population in different categories of work for the years 1970 to 1980. The number of persons employed in agriculture has remained relatively stable. Most are small farmers. There has been a tendency for more to be involved in animal than in crop production. Wine production is relatively important (amounting to about 140,000 hectolitres per year). Industry consists mainly of iron and steel production, tyre production, and a large number of small industries. It should be noted that since 1975 the iron and steel industry has suffered considerable financial loss. The tyre industry is, however, expanding.

Since 1960, the government has been taking steps to diversify the economic structure of the country. Luxembourg has become a centre for international finance; the number of banks has grown from 19 in 1960 to 111 in 1980 and the number of bank employees from 1,321 to 7,600 over the same period. New express ways (auto-routes) have been built and the railway system has been electrified. It should be noted that 90 percent of those in the construction industry are foreigners. There is

Table 1
Breakdown of population by age and nationality for 1974 and 1979 (thousands)

Age group	1974			1979		
	Luxembourgers	Foreigners	Total	Luxembourgers	Foreigners	Total
0-14	51.3	20.8	72.1	44.7	24.5	69.2
15-64	179.4	53.3	232.7	181.5	63.9	245.4
64+	42.7	3.6	46.3	45.4	3.7	49.1

Table 2
Persons employed in different categories of work 1970–80

Type of work	1970	1975	1978	1979	1980
Agriculture	1,000	800	800	800	800
Industry	45,800	49,800	44,800	43,800	42,700
Construction	12,500	16,100	14,100	15,200	15,700
Services	39,900	50,500	57,600	59,000	61,400
Public administration	13,200	15,300	16,300	16,800	17,000
Independent	26,600	24,600	23,000	22,600	22,200

an international airport and the amount of air-freight business has increased. The canal (the Moselle) and port have created new jobs. Radio and television in Luxembourg are expanding. Profits in the post and telecommunications sector tripled during the 1970s. The capital city is also one of the capitals of the European Community, being the site of the General Secretariat of the European Parliament, the European Financial Court, the European Court of Justice, the European Investment Bank, the Official Publications Office of the European Community, etc. Despite all of the above, small independent businesses have felt the economic crisis severely and several have become bankrupt. Imports and exports are mainly with the Federal Republic of Germany, Belgium, and France. Imports include food, machines, petroleum products, textiles, and transportation materials. Exports are mainly iron and steel products, tyres, textiles, and machines.

The constitutional reform of 1919 stated that sovereign power resides in the nation and that the Grand-Duke exercises such power according to the constitution and laws of the country. Elections according to proportional representation are held every five years. Typically, coalition governments are formed by two of the three main political parties—the Social Christian Party, the Socialist Workers Party, and the Democratic Party. There are 59 members of parliament.

French, German, and the Luxembourg dialect are the three languages used. Most persons speak all languages, and no ethnic language groups exist. French is the official administrative language but the Luxembourg dialect is the most commonly spoken language. In primary school, however, German is commonly used. The Luxembourg dialect has existed as a written language since the end of the Second World War and the number of literary works in this dialect is increasing.

1. Structure and Size of the Educational System

The main stages of education are preschool, primary, secondary, and higher education.

The main aim of preschool education is to prepare children for primary education. Children are accepted into preschool at the age of 4 years, and from 5 to 6 years of age preschool is compulsory. The main subjects are prereading, prewriting, and premaths. At the beginning of the 1980s, just over 7,500 pupils were enrolled

in preschool; 2,300 were foreigners speaking languages other than those used in Luxembourg—a problem for teachers, who normally teach in the Luxembourg dialect.

Primary school is for children from 6 to 12 years of age. Again there is a problem of language. German is taught from the first grade onwards and is the language of instruction. Towards the end of second grade the children begin to learn French. Thus, apart from the normal primary-school subjects, the pupils also have two foreign languages to learn. It is not surprising that the children of immigrants have difficulties. In an attempt to remedy this situation, special reception classes have been created for foreign children with the aim of preparing them for integration into the normal classes. Mentally and physically handicapped children enter “special” classes taught by specially trained teachers.

Figure 1 presents the enrolment figures from 1970 to 1980. The decline in enrolment is due to the declining birth rate.

At the end of primary school, children have a choice. Until 1978, children could take an examination in order to enter secondary school, middle school, or vocational school. Those who failed to enter one of these types of school continued in an extended primary school (*enseignement complémentaire*) and after three years left school and entered work. However, the present intention is to have a structure such that the different forms of secondary education would be more integrated.

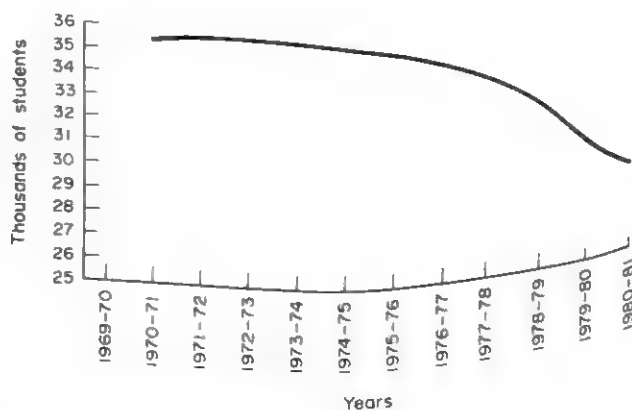


Figure 1
Primary-school enrolment, 1970–81

Compulsory education will still be from 5 to 15 years of age. Primary school will still last six years. Thereafter, children will either enter a general secondary school (grades 7 to 13), and from there go to university, or enter a secondary technical school or middle technical school. One form of secondary technical school will cater for grades 7 to 13 and will prepare pupils for studies at the Institute of Technology in mechanics, electrotechnology, and civil engineering. Another type of secondary technical school will also take grades 7 to 13 but the last two grades will be geared towards work in specific types of trade. The middle school will encompass grades 7 to 12, the last three years of which will be vocational education. Thus, in effect, education will last from the ages of 5 to 18 years for most children and vocational education, for the majority of students, will take place from the age of 15 or 17 onwards.

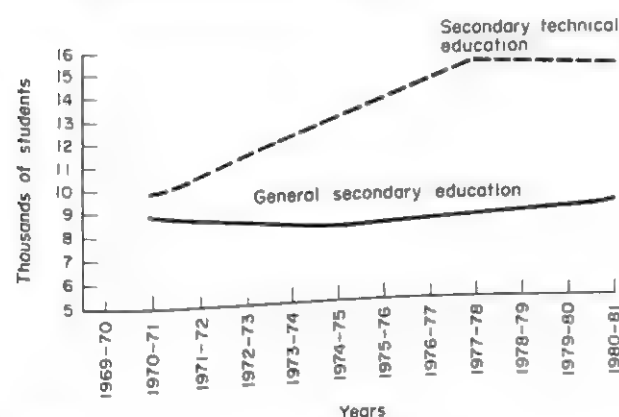


Figure 2
Enrolment in secondary education 1970-81

Figure 2 presents the evolution from 1970 to 1980 of enrolments in general secondary and secondary technical education. As can be seen, the numbers in general secondary education have remained about the same whereas there has been a 50 percent increase in technical education. Until 1978, secondary schools were located in seven towns. Since then, decentralization has resulted in schools in 34 different localities.

Higher education takes place in the Institute of Technology, where engineers are trained, the Pedagogical Institute, where teachers are trained, and in university courses. Some university courses are taken in universities in other countries, primarily Belgium and France (61 percent) but also in the Federal Republic of Germany, Switzerland, and Austria (see Table 3). Some 35 percent of university students are female. The number of higher education students has risen from 2,000 in 1970 to 2,500 in 1980. This is only 2 percent of the working population. However, numbers are growing and university students encounter problems in obtaining employment after their studies.

There has been a slight increase in the number of persons attending adult education courses, especially

Table 3
Number of students in universities outside Luxembourg, by discipline and sex, 1978-79

	Male	Female	Total	Percentage
Pure sciences	132	64	196	7.6
Engineering	272	8	280	10.9
Medicine	413	252	665	25.9
Language	191	226	417	16.2
Social sciences	278	136	414	16.1
Law	122	63	185	7.2
Architecture	39	12	51	2.0
Others	192	171	363	14.1

for learning foreign languages. These courses are organized by the Ministry of Education and by private organizations. The ministry also organizes courses (the minimum number of participants is five) for qualifying in examinations in secondary and vocational education.

2. Administration and Curriculum

The Ministry of Education is responsible for the organization of education in the Grand-Duchy. For pre-schools and primary schools, a "college of inspectors" is responsible for the curriculum and teaching. For secondary education, there are "national commissions" for each subject area. The members of these commissions are specialist professors and they are responsible for the curriculum in their particular subject area. They also prescribe the textbooks to be used—either Belgian, French, or German. In certain cases, they develop the textbooks themselves. However, it is the school principals who are responsible for the functioning of their schools and the execution of teaching and learning. Although the teachers have no influence over which textbooks they use, they do, in effect, decide on their methods of teaching.

3. Examinations

In the schools, there are three terms per year. At the end of each term the teacher(s) give(s) a mark in each subject area to each pupil. Advancement from one grade to another is based on the sum of marks across the terms but with weights of one-sixth for the first term, two-sixths for the second term, and three-sixths for the third term. The final examinations for each school type are organized by the Ministry of Education. The students can obtain the following certificates (in descending order of importance) from secondary technical schools: the final diploma of secondary technical studies, the technician diploma, the certificate of vocational and technical aptitude, or the certificate of manual ability.

4. Finance

Fourteen percent of the state budget is allocated to education and the bulk of this is for teacher salaries. Special scholarships can be awarded to meritorious and needy pupils. At the primary-school level, the communes are responsible for the allocation of scholarships, and in secondary and tertiary education, the ministry is responsible, acting on the advice of teachers and principals.

5. Teacher Training

The Pedagogical Institute is responsible for all theoretical and practical preschool and primary-school teacher training. Until 1982, this training lasted two years but since then it has been three years. Only about 40–50 students per year are selected, on the basis of results in the national examination taken at the end of the general secondary school.

Secondary-school teachers are trained abroad for their subject matter training: they must complete four years of study and obtain a degree in order to be accepted by the Ministry of Education for a teacher-training course. This course comprises two phases. The first is a general pedagogical training at the teacher-training department at the *Centre Universitaire de Luxembourg* and the second is a five-term practical course in a secondary school. Further to this, each teacher candidate has to write a short thesis in a special subject and complete educational work drawn from an official programme. A final practical examination must be taken. This is evaluated by a jury of secondary-school teachers and comprises two model lessons, which the student teaches, the correction of two sets of homework, and two inspection visits. There is a *numerus clausus*, and when demand exceeds supply in any particular discipline entrance is by competition. Teacher training for secondary technical school is similar to the above.

6. Educational Research

In general, the evaluation of specific programmes for research into various aspects of the school system takes place in the *Service de Recherches Psychopédagogiques* of the Pedagogical Institute. Most of the studies are concerned with problems in primary school: difficulties of foreign children in learning mathematics, psychopedagogical problems at the kindergarten level, etc.

The following are among the surveys which have been conducted: an evaluation of the *enseignement complémentaire*, a study of persistent poverty in seven European regions, needs in the placement of minors, and the influence of school maladjustment in the process of delinquency.

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Macao

R. M. Thomas

The Portuguese colony of Macao (Macao) is located on a small peninsula and two adjacent islands that jut into the Pearl River near where the Pearl flows from mainland China, past the city of Canton, and into the South China Sea. The territory covers 9 square kilometers (3.47 square miles) with a population in 1980 of 285,000, bringing the population density to nearly 32,000 per square kilometer.

Four centuries ago Macao became known as the Gateway to Asia, since it was the first permanent European settlement on the China coast and hence the port through which traders and missionaries from the West

gained access to China. In past centuries, Macao was also known as the City of God and the City of Schools because of the extensive network of churches and schools established by Catholic orders and, to a lesser extent, by Protestant missions.

Although for more than four centuries the colony was infused with a strong Christian influence, by the 1970s only a small proportion of its citizens were Christians. The population in 1970 was 250,000, and only 9 percent were professed Catholics and only 1 percent Protestants. The majority (77 percent) were Buddhists, another 12 percent professed no religion, and 1 percent were Mos-

lems or of other faiths. In terms of national origin, the population in 1970 was 3 percent Portuguese and 97 percent Chinese, suggesting that 9 percent of the Chinese residents had adopted Christianity (*Anuario Estatístico 1971 1972* pp. 21, 23).

By the 1980s the colony's chief sources of income were tourism, import-export trade, and the manufacture of fireworks, textiles, plastics, and electronics. The chief attractions for tourists were the gambling centers—four casinos, a dog-racing track, a jai-alai court, and the annual Macau Grand Prix auto race.

1. Structure and Administration of the Educational System

Education in Macao is the official responsibility of a Directorate of Educational and Cultural Services, established in 1980 to assume the duties of the former Department of Educational Services and to supervise the National Library, the Historical Archives, and the colony's organized athletics that involve over 7,500 participants from 81 sports clubs.

While the directorate is nominally in charge of all educational services in the territory, in practice its activities are far more limited. Of the 39,490 students attending schools in Macao in 1979, only 10 percent were in schools administered immediately under the directorate. The remaining 90 percent were enrolled in schools sponsored by Catholic missions, Protestants, or private Chinese societies which were essentially in charge of their own affairs.

From the viewpoint of the instructional language used and the pattern of courses taught, the schools can be divided into two major types: those under the directorate, which are conducted in Portuguese, and private schools, which are attended mainly by Chinese students, operated by missions or Chinese organizations, and conducted in either English or Chinese.

The Portuguese-language schools, designed chiefly for children of Portuguese families, are of several types and levels and follow the same curricula as those authorized by the Ministry of Education in Portugal. These institutions, enrolling 3,615 students in 1979, include a kindergarten (*escola infantil*), a four-year primary school, a two-year upper-elementary school (grades 5–6, called *escola preparatoria*), a classical secondary school (*liceu*), and one commercial and one industrial school subsidized by the government. The directorate also administers three primary schools for Chinese pupils, with instruction given in both Portuguese and Chinese so that pupils can master both languages (Claro 1980a pp. 1–2).

To encourage Chinese youths and adults to learn Portuguese, evening classes are offered by the government free of charge, with more than 1,000 participants enrolled in 1980.

The colony's 89 private schools enrolled 90 percent or 35,357 of the city's students in 1979, while an

additional 518 were in semi-government-sponsored programs. Of the 89 institutions, 23 were conducted by Catholic orders under the Diocese of Macao with a total enrollment of around 20,000 students. A second group of schools were Chinese institutions, following a program of study patterned after that in the People's Republic of China, with an estimated enrollment of 13,500. The remainder of the private-school students attended non-Catholic Christian schools of a non-communist orientation (Claro 1980a pp. 1–2).

In all government-administered schools, education for the first nine years is free of charge to the students' families. In addition, many pupils receive free meals provided by the Institute of Social Assistance. The cost of private schooling is borne chiefly by the sponsoring societies and fees paid by parents. In addition, the government provides subsidies to 60 of the 89 private institutions.

Until the 1980s there was no university education offered in Macao. The most able secondary-school graduates in the past years had been awarded scholarships to pursue higher education abroad, principally in Portugal or in the British colony of Hong Kong, located across the Pearl River from Macao. At the close of the 1970s, a coalition of business executives, primarily from Hong Kong, was granted a 25-acre site on Macao's Taipa Island to establish the private University of East Asia. The first buildings were erected in 1980–81 for the scheduled opening in the fall of 1981. According to the plan, the university is initially to comprise three colleges:

the University College, offering three-year degree courses; the Junior College, offering one-year and two-year courses preparing candidates for admission into the University College and other tertiary institutions; and the College of Continuing Education, offering professional and other courses of varying durations. (*Universidade de Macau* 1980 p. 3)

The university's directors intend to enroll 500 students each year, beginning in 1981, until facilities for 2,000 students are completed in 1984. The university is to provide three streams, distinguished by language of instruction—Portuguese, Chinese, and English.

2. Curricula and Teaching Materials

Both curricula and teaching materials are imported from sources outside the colony. For the schools conducted in the Portuguese language and administered directly under the territorial government, both the pattern of subjects taught and the textbooks pupils study are imported from Portugal. For the noncommunist schools conducted in the Chinese or English languages for Chinese students, and administered either by Christian orders or by secular organizations, the curricula and textbooks are imported from Hong Kong. An estimated 90 percent of the textbooks in Macao are published in Hong Kong. The course of study and textbooks for communist schools come from the People's Republic of China.

Although each variety of private school is permitted to determine its own curriculum, free from government intervention, most schools include the subjects of Chinese language, English language, Chinese history, world history, mathematics, biology, chemistry, physics, social studies, geography, hygiene, handicrafts, art, and physical education. A move was initiated in the early 1980s to include moral instruction so as to counteract the increase in crime in the territory.

With regard to instructional methods, schools of the colony have depended chiefly on lecturing, discussions, and the assignment of reading in textbooks. Audiovisual aids have not been adopted extensively, nor has the colony utilized the educational television programs broadcast from nearby Hong Kong.

3. Supplying Educational Personnel

It has been unnecessary for the colony to maintain a system for training either administrative or teaching personnel, since most staff members have been educated abroad. The six or seven top administrators in the Directorate of Educational Services are Portuguese educationalists who hold advanced academic degrees. The same is true of the majority of the teachers in the Portuguese secondary school and primary schools. Members of Christian orders that maintain private schools in Macao have been educated in Europe or the United States or in other regions of the Far East.

Since there are no government regulations specifying the training and experience required of private teachers throughout the territory, each school is free to hire its own teachers on the basis of criteria set by schools'

directors. Most classroom teachers come from Macao, Taiwan, Hong Kong, or mainland China. This laissez-faire teacher-supply system appears to suit the territory's needs, since there is no shortage of classroom instructors.

4. Conclusion

In summary, education in Macao is primarily conducted by private societies that are permitted a great measure of autonomy in determining their curricula, teaching materials, staffing, and methods of finance. The government directs its attention mainly at the support and supervision of the few Portuguese-language schools and at providing modest financial subsidies for the majority of the territory's private institutions.

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Madagascar

S. S. McIntyre

The Democratic Republic of Madagascar comprises a large island (area: 587,000 square kilometers or 226,640 square miles) and several small ones. It is located in the Indian Ocean approximately 500 kilometers to the east of Mozambique. There are several distinct geographical regions within the country: the rice-growing high central plateau is the most developed area, and includes the capital city of Antananarivo as well as other important urban centers. To the east is a lush area lying between the plateau escarpments and the ocean. The arid southwestern region is the most isolated and the least developed. In contrast, the northern triangle is a rich agricultural area.

In addition to geographic variance, Madagascar is a nation of much ethnic variance. The total population of 8,742,000 includes more than half a dozen principal ethnic groups as well as a number of foreign residents (Europa 1982).

Language serves as an important unifying element

amongst the population. Malagasy, a language of Malayo-Polynesian origin, is spoken throughout the nation in its various dialect forms. French is a second official language but is slightly less used in education and official affairs since the nation gained total independence on June 26, 1960.

The French rule of Madagascar lasted from the late nineteenth century until October 1958, when the nation entered a two-year period of autonomy within the French community. In 1960, the French granted independence to Madagascar and appointed a head of state to rule the country. During the French rule differences between the coastal people (*Côtiens*) and the highland *Merinas* were accentuated. These differences, in conjunction with economic problems, led to growing discontent. The country entered a period of political instability in 1972 which led to the establishment of the 1975 Constitution, the Socialist Revolutionary Charter.

Under the 1975 Constitution the National People's Assembly acts as the national legislative authority. Its members are elected by the people to serve a five-year term. A president is elected for a seven-year term, and becomes the chairman of the Supreme Revolutionary Council (SRC). The members of the council are chosen by the president, with the stipulation that one-third of the body be selected from a list provided by the National People's Assembly. The prime minister is appointed by the president, and the ministers are appointed by the prime minister.

In order to improve the economic situation, land was expropriated from French ownership during 1978-79 and converted to state farms and cooperatives. By placing priority on agricultural reform, the present government is attempting to achieve self-sufficiency in most basic food products. Furthermore, products such as coffee, cloves, vanilla, and meat make up a large percentage of export earnings.

The nonagricultural modern sector of the economy is also of a socialist nature. Since 1975, the government has owned the banks and insurance agencies, and the government has shares in many business companies. There are plans to expand the industrial sector, which is currently limited. There is potential mineral wealth in the country; thus far tar sands have been explored for future production, and the refinery at Toamasina presently produces oil. However, the highest export earnings from minerals come from chrome (Hancock 1981 pp. 225-28).

In spite of vigorous programs and potential sources of wealth, Madagascar remains in need of aid. It will take some time for the effects of local programs to reach national significance. In the meantime, France remains the major supplier of aid.

1. Structure of the Educational System

There are three main goals to be pursued by the educational system: democratization, decentralization, and "Malagasization." Together, these three goals imply that education should be equally accessible to all, that the administration and the location of educational establishments should be scattered rather than centralized in one area, and that the system should serve the needs of the nation.

The basic structure of the educational system consists of a 6-year primary school, a 4-year junior-secondary school, a 3-year senior-secondary school, and a university. Young children may also enter nursery or kindergarten education after age 3.

Attendance in the six-year primary school, which children enter at age 6, is compulsory. By 1975, over 94 percent of primary-school-age children were enrolled (100 percent of males, 87 percent of females). In the same year, 54 percent of youths of secondary-school age were in school (58 percent of males, 50 percent of females). The highly selective university enrolled in 1976 only 1.7 percent of university-age youths (2.2

percent of males, 1.2 percent of females). By 1979, the percentage in higher education had grown to 3.1 (UNESCO 1981 pp. 3:17, 3:36).

Major reforms were made in the system in 1972-73. Research was conducted and suggestions were made by the Malagasy Interdepartmental Committee and various subcommittees. The results were given to the Ministry of National Education which initiated educational reforms accordingly. These reforms included the dismissal of the French director general of academic services and the establishment of a new administrative structure.

The Ministry of National Education is responsible for developing and coordinating the educational system with respect to the national goals of education. The directorate for the planning and orientation of education works with the primary, secondary, technical, and vocational operational teaching directorates to outline specific elements of the national education plan. They develop syllabi, and coordinate national and regional administrative bodies. The *Bureau d'Etudes des Programmes* (BEP) and the *Organe Technique d'Elaboration des Programmes* (OTEP) are responsible for the adaptation of syllabi and methods in accordance with environmental conditions. They are also responsible for the coordination of research and instruction, the organization and production of curriculum materials, and the retraining of instructors. The Publication and Audio-Visual Service (SEPAV) takes care of the editing, publication, and distribution of curriculum materials (Razafindrakoto 1979).

Since 1973, all teaching and research establishments of higher education have been integrated into one autonomous university under the control of the Ministry of National Education. The head of the university is the rector who is advised by the university committee of administration. This committee includes ministry officials, administrative leaders, faculty, staff, and students. The finances of the university are the responsibility of the Ministry of Finance (UNESCO 1976).

Teacher training takes place at university level, in an institute of teacher training. A number of policies were initiated in 1973 in order to open additional schools for the sake of access to education in all areas and for the purpose of promoting the views of the nation. These policies included: the replacement of foreign instructors by Malagasy instructors; the placement of teacher-training students already holding the *baccalauréat* into teaching positions at the lower-secondary-school level; the placement of teachers holding bachelor's degrees in positions at the upper-secondary-school level; the request that persons holding the Lower Secondary Certificate teach rather than serve in the armed forces; the standardization of training programs; and the development of minicourses to refresh the knowledge of teachers (Razafindrakoto 1979).

Entrance into higher education programs requires six years of primary schooling, seven years of secondary schooling, and the successful completion of the sec-

ondary-school leaving certificate (*baccalauréat*) or an equivalent exam. The present policy strives to emphasize the use of common examinations rather than school type and location as the criteria for admission into higher education.

2. Concluding Remarks

It is difficult to assess the effects of the educational reforms over a short period of time. Some trends, however, are already evident: the emphasis on the development of primary schools has led to a marked increase in first-level school enrollment and a reduction of regional disparities.

In 1960–61, there were approximately 450,000 pupils in first-level schooling. This figure rose to more than 1,130,000 in 1975. Accordingly, the ratio of students attending school to the total school-age population of age 6 to 14 rose from 36.5 percent in 1962–63 to 47.1 percent in 1971–72 and then to 52.0 percent in 1975. Educational goals have not shown a similar effect on the higher levels of education. There are still a limited number of higher education establishments, and regional and social disparities have not yet been dealt with in an effective manner (Hugon 1980). According to the *Europa Yearbook* (Europa 1982) 85 percent of children between the ages of 6 and 11 attend school,

but only 11 percent of children between the ages of 12 and 17 attend.

Thus, the effects of educational policies in Madagascar may be seen to some extent at the primary levels of education. More work remains to be done, especially in terms of secondary-education opportunities. As with the results of the agrarian reforms, it will no doubt be some time before the full effects of educational reform are evidenced at the national level.

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Malawi

J. C. Malewezi

The Republic of Malawi, a landlocked country in East Africa, lies along the Great Rift Valley, with Lake Malawi along the eastern border, the Nyika Plateau in the northwest, and the Shire Highlands in the southeast. It covers an area of 117,050 square kilometres (45,193 square miles) and in 1974 had a population of 4,900,000.

Malawi was formerly the British protectorate of Nyasaland from 1891 to 1953, when it became part of the Federation of Rhodesia and Nyasaland. The federation dissolved in 1963 and the following year Malawi gained independence under its present name. In 1966 it became a republic within the Commonwealth.

1. Aims of Education

The main aim of education in Malawi is to produce educated people whose theoretical knowledge and practical skills are well-balanced. The educational system is seen as both working within and developing the country's cultural norms and social values, which include discipline, good character, and propriety in manner and dress.

The extension of accessibility to education, particularly primary education, has long been a goal in

Malawi. Universal primary education has not yet been achieved but remains the ultimate aim.

The basic objectives of education are rooted in those of national development and are as follows:

- to base educational development, particularly beyond the primary level, on the personnel requirements of social and economic development;
- to make the system more relevant to socioeconomic needs;
- to ensure the maximum and efficient utilization of existing facilities and resource inputs;
- to secure a more equitable distribution of educational facilities and resources in order to realize the greatest possible cost effectiveness in the education sector.

The goals of primary education are:

- to enable pupils to lead a productive and fulfilled life after completing primary education by: (i) mastering reading, writing, and arithmetic; (ii) character formation, including spiritual and cultural

values and responsible citizenship; (iii) acquiring knowledge of people and the world, particularly an understanding of the local environment and ways of improving the quality of life in it; and (iv) acquiring knowledge and skills in agriculture and other practical areas in which pupils will have to earn a living;

- (b) to equip pupils with sufficient knowledge and skills to continue learning after they leave school; and
- (c) to prepare pupils for the next level of education.

Education policy, therefore, emphasizes education at all levels for agricultural and rural development, and the curriculum has been restructured accordingly. The school leaver can therefore return to the land reasonably well-equipped to deal with and understand rural problems and participate effectively in national development.

2. Administration

The Ministry of Education and Culture is headed by a politically appointed minister who also sits in the cabinet. Under the minister is a principal secretary who directs day-to-day activities. The principal secretary is assisted by the deputy secretary. Under the deputy secretary are four heads of the main branches. The chief education officer heads the Educational Administration Branch; the chief inspector of schools heads the Inspectorate and Examination Branch; the assistant chief education officer (planning) heads the Educational Planning Branch; and the undersecretary heads the General Administration Branch.

The Educational Administration Branch ensures the efficient running of schools and colleges by the provision of teaching staff, support staff, equipment and books, selection of pupils, and the maintenance of discipline. The Inspectorate and Examination Branch is responsible for the supervision of schools and colleges, the development of curricula, and the Malawi public examinations. The Educational Planning Branch is responsible for planning education development programmes and expansion of educational facilities. The General Administration Branch is responsible for general administrative and accounting functions including personnel, the audit, and stores management. To assist headquarters in its supervisory role, regional and district offices have been set up in each region and district respectively. A regional education officer supervises the district education officers in a region while the district education officers supervise headteachers within the district.

The Education Act of 1962 prescribes the roles of local and central government in education. Generally, the Act provides for the decentralization of certain aspects of primary education to each local education authority (LEA) while at the same time strengthening public control over education to facilitate the planning of education at the national level so that the needs of

the whole people are taken into account. Consequently, the minister responsible for education is given complete authority over the sector and is directly represented by his nominees on education committees at the local education authority level.

Each district council or town or city council has been declared a local education authority. In discharging this role, it forms an education committee whose executive officer is the district education officer (DEO).

The Education Act empowers the central government to exercise overall powers in order to coordinate and plan education at the national level. The mechanisms for doing this are first the centralization and registration of teachers and second the regulation of syllabi and school fees.

Because missionaries were the pioneers in the provision of education in Malawi, they still have proprietorship over many schools. As voluntary agencies they contribute to education by the construction of schools and by equipping and furnishing them.

Local communities contribute to education largely through constructing the majority of primary schools through self-help projects.

In conclusion, the responsibility for primary education in Malawi is shared between the central government, local government, voluntary (mission) agencies, and the local communities in which the schools are situated. While variations occur between different local education authorities, the fact that the central government oversees the whole education system ensures coordination, equity, and fairness in the distribution of education goods and services.

3. General Structure of the Educational System

Education in Malawi is not compulsory at any level. The formal educational system comprises five sections: primary education, secondary education, teacher education, technical and vocational training, and higher education.

The primary-school course serves two functions: to provide a good background for those pupils who pass on to the next level of education and to prepare the majority of the pupils for life in the rural areas where they will have to earn their living. Emphasis is put on learning the basic skills of numeracy and literacy in order to ensure permanent literacy for all pupils completing the course.

The school year runs from October to August and is divided into three terms.

The primary course is eight years long and is divided into two sections, junior primary (standards 1–5) and senior primary (standards 6–8). The official entry age is 6. Instruction in standards 1–4 is conducted in Chichewa, the national language. Standard 5 is a transitional year in which instruction is both in Chichewa and English. After standard 5, instruction is in English.

There are two main types of primary school—assisted schools and unassisted schools. Assisted primary schools

receive financial assistance from the central government. Of the assisted schools, some are owned by voluntary (mission) agencies while others are owned by local education authorities. Unassisted schools do not receive any financial assistance from the central government. These unassisted schools can apply for assistance when they meet requirements set down by the Ministry of Education.

Since only about 15 percent of primary-school leavers have the opportunity to go on to secondary school, the primary-school curriculum has been adapted to make it relevant to the needs of the majority who do not proceed further. Agriculture, home economics, and craft technology are introduced in the upper classes. The syllabi in science and arithmetic put emphasis on preparing the pupil both for further education and life in rural society.

Secondary education is considered the cornerstone of economic development as it is the prerequisite for entry into the modern economic sector. It is also required by students going on to the postsecondary or tertiary levels of education and training. In view of this, the ministry has emphasized expansion and diversification. The government has completed the first phase of expansion by constructing at least one secondary school in each district. More are being built with the aim of doubling enrolment in secondary schools by 1990. The policy on curricular diversification is to make secondary education more responsive and relevant to local needs. Apart from the introduction of agriculture, nearly half of the schools offer practical subjects like woodwork, metalwork, technical drawing, and home economics.

Secondary education lasts four years in most schools. After two years the students sit the Junior Certificate Examination (JCE). After obtaining the Junior Certificate (JC), students study for another two years before sitting for the Malawi Certificate of Education (MCE) which is the minimum entry qualification for the University of Malawi. A few students may continue secondary education by taking two more years at a "sixth-form" school which prepares students for the Higher School Certificate (HSC) examination.

There are five types of secondary school in Malawi. The division is made according to whether boarding facilities are available and whether the schools are government, assisted (mission), or private. There are aided boarding-secondary schools, aided day-secondary schools, government boarding-secondary schools, government day-secondary schools, and private secondary schools. The teaching stock is composed of qualified teachers holding degrees or diplomas. The very few underqualified teachers (T2 and T3 teachers) are restricted to teaching civics, physical education, or Chichewa. There are shortages of teachers, particularly in English, mathematics, and science. There are no unqualified teachers in secondary schools.

Technical education starts in primary schools and spans the whole of secondary and tertiary education. In primary schools, pupils are exposed to elementary aspects of crafts and technology. At the secondary level,

technical subjects are offered in almost half the secondary schools. The most important technical training takes place as a form of vocational training in technical schools and the polytechnic.

The largest number of craft courses are carried out in government technical schools. The training is of an apprenticeship type and is administered jointly by the Ministry of Education and Culture and the Ministry of Labour with the cooperation of industry. Courses provided in government technical schools include brickwork, carpentry and joinery, plumbing, motor mechanics, general fitting, diesel fitting, sheet-metal work, and electrical work. The minimum entry qualification for these courses is the Junior Certificate.

The trainee spends one year in a government technical school on a residential course as a preapprentice. At the end of the year, the trainee sits an examination. A successful result in the examination leads to the award of the Grade 3 National Trade Certificate. The trainee is then indentured to an employer for the next three years. During these three years, nine months of each year are spent in industry and three months at the technical school. According to the ability of the trainee, the Grade 2 Test and later the Grade 1 Trade Test can be taken within the indenture period. Throughout the apprenticeship period, the trainee is paid wages by his employer at rates fixed by the government. The employer is refunded in full from the Industrial Training Fund.

Assisted technical schools are owned by mission agencies and managed by boards of governors who receive annual government grants for the schools. Although selection, staffing, and courses are similar to those in government technical schools, their programmes are outside the apprenticeship scheme. Assisted technical schools offer two-year residential courses up to the Grade 2 level. Training is available in brickwork, carpentry and joinery, and motor mechanics.

Craft training, formerly carried out at the polytechnic, has been transferred to the government technical schools. The exceptions are training in printing and telecommunication crafts. The main role of the polytechnic in technical training is in the training of technicians, diploma engineers, and graduate engineers.

Entry to the technicians' course requires a good Malawi Certificate of Education. It follows the usual apprenticeship scheme with one year full-time at the polytechnic followed by three years of industrial attachment. In each of the three years, the trainee spends six months in industry and six months at the polytechnic where the trainee can take the City and Guilds Examination (set in London). Arrangements are under way for the formation of a local examining board, initially working in conjunction with the City and Guilds.

The engineering diploma course is a three-year university course followed at the polytechnic. It offers more academic subjects than the technicians' course. The engineering degree course was started in 1977. It is

a six-year programme aimed at producing high-level professional engineers. The first graduates were produced in October 1983.

Youth training centres are under the control of the Malawi Young Pioneers Movement which is the youth-training organization of the Malawi Congress Party. The centres provide training in the building and metalwork trades. Upon completion of training, youths are supposed to become self-employed in rural areas. The centres teach skills which will enable the trainee to build a complete house and manufacture all the wooden furniture, doors, windows, cupboards, etc., for it. The course in metalwork develops skills for maintenance and repair of hand tools, farm implements, bicycles, oxcarts, and other items found in the rural environment.

Training at youth centres is for one or two years. Although courses at the centres are not within the apprenticeship programme, one centre does carry out preapprenticeship training in general fitting, motor-vehicle mechanics, and autoelectrics. Such preapprentices are then transferred to government technical schools to join the apprenticeship scheme.

All forms of higher education in Malawi are the responsibility of the University of Malawi (founded in 1964) whose central administration is located in Zomba, the former capital of Malawi which has now become a university town. The central administration is under the direction of the vice-chancellor and the university registrar. Each of the four constituent colleges is headed by a principal who is assisted by the college registrar.

The first degree students were admitted in September 1965 and graduated four years later, in 1969. In December 1974, the University of Malawi Provisional Council Act, by which the university was established, was repealed and replaced by a full University of Malawi Act.

Students enter the university after obtaining the Malawi Certificate of Education (MCE). Admission depends on a very competitive national selection based on MCE grades. Once students have been selected, they automatically receive government scholarships.

In 1979, an additional college, for nursing education, was added to the existing three colleges: Bunda College of Agriculture in Lilongwe, Chancellor College in Zomba, Kamuzu College of Nursing in Lilongwe, and the polytechnic in Blantyre.

Bunda College of Agriculture offers a three-year training in agriculture at degree and diploma levels. A selected group of diplomates are admitted to the final two years after which they are awarded a degree in agriculture.

Chancellor College is the main campus of the university. It offers courses leading to degrees in arts, science, social science, education, public administration, and law; and to diplomas in education and public administration.

The polytechnic offers diploma and degree courses in business studies, accountancy, and engineering and a diploma in technical teaching. It is also responsible

for a variety of certificate courses. The courses at the polytechnic have a direct vocational content and practical bias.

The Kamuzu College of Nursing is the newest of the four constituent colleges of the university. It trains students in nursing and midwifery.

Correspondence education is provided mainly by the Malawi Correspondence College and Broadcasting Unit. However, other correspondence colleges, including ones abroad, also provide courses by correspondence.

The Malawi Correspondence College merged with the Schools Broadcasting Unit in 1973 after coexisting with it for six years. Enrolment totals about 3,500 students per year. Its objectives are:

- (a) to provide opportunities for secondary-school education to the thousands of primary-school leavers who are unable to attend secondary schools;
- (b) to enable adults who did not complete their education to have formal education at primary or secondary level;
- (c) to enable primary-school teachers to upgrade themselves either from T4 level to T3 or from T3 level to T2; and
- (d) to ensure that adequate alternative educational opportunities are available and to prevent a drain of funds to foreign correspondence colleges.

The Broadcasting Unit supplements the functions of the Correspondence College by providing radio programmes. In addition, the unit provides a tape service whereby schools send blank tapes to the unit on which it records specially requested material.

The Malawi Correspondence College and Broadcasting Unit offers the following courses: (a) a primary-school leaving certificate course; (b) nine Junior Certificate courses; (c) seven Malawi Certificate of Education courses; and (d) a teacher-upgrading course (T4 to T3 and T3 to T2).

A most important development in correspondence education is the setting up of Malawi Correspondence College centres and night schools. These started as study groups which met under the guidance of teachers. They have developed into schools with their own or shared facilities and a permanent staff of 1 teacher per 40 pupils. The local community usually provides the classrooms, hostels, and teachers' accommodation on a self-help basis while the college provides teachers and teaching/learning materials, including a radio.

Special education in Malawi is seen as a first stage in preparing the handicapped to lead an independent and satisfactory life in the community. The other stages are vocational training, settlement, and aftercare. These three later stages are the concern of many government departments, statutory organizations, and private organizations, both within and outside the country.

There are well-developed programmes for the blind and the deaf. There are no special programmes for retarded children. In order to encourage parents to send their handicapped children to school, no fees are payable for such children and their transport costs to school are covered by the government.

It is not possible to use the resource type of education for the deaf because the deaf require sophisticated and expensive equipment which cannot be provided all over the country. Therefore, education for the deaf is provided at an integrated centre which consists of a preschool, a primary school for deaf children, a training school for teachers of the deaf, and an audiology testing centre.

Teacher training for the deaf and the blind is carried out in Malawi at Montfort College and is open to other African countries. Recruitment is from among already serving primary-school teachers. Training is given by means of a supplementary two-year course which includes block periods of teaching practice at the nearby special schools.

4. Teacher Education

The Ministry of Education and Culture prescribes the syllabus and guidelines on period allocation for teachers' courses. The courses consist of both academic and pedagogical subjects. Classroom subjects are complemented by teaching practice. At different times during the course, students participate in peer teaching and micro-teaching. The student first teaches primary-school children at the adjacent demonstration primary school under the supervision of an experienced teacher. Later, the trainee teaches for a stretch of six weeks at a primary school in a scheme called block teaching.

The lecturers in the teachers' colleges are of three types: graduate teacher educators, who head most of the departments, and diplomate and nondiplomate tutors.

Primary-school teachers are mainly of two grades, T2 and T3. T2 teachers hold a Malawi Certificate of Education (four years of secondary education) plus a two-year Teachers' Certificate, while T3 teachers hold the Junior Certificate (two years of secondary education) plus a two-year Teachers' Certificate. There are a few T4 teachers (primary education plus Teachers' Certificate), but these are being phased out by normal attrition and by upgrading to T3 level through inservice training. A T1 grade exists but this is a promotional grade reserved for headmasters and headmistresses. Since there is a shortage of qualified teachers, recourse has been made to unqualified teachers. Most of the unqualified teachers have attempted the Junior Certificate Examination and are given short concentrated courses in teaching methodology.

Secondary-school teachers are trained at the School of Education. The school awards three types of professional qualifications: Diploma in Education,

Bachelor of Education, and the University Certificate in Education. Students enter as degree or diploma students and follow the course for a general degree in education. Students following the diploma course continue for a third year, taking courses in education and subject methodology, with a period of teaching practice in schools. Students selected for the Bachelor of Education course continue with third- and fourth-year general-degree courses in their teaching subjects and in education. During the fifth year they take subject methodology and education and have a period of teaching practice.

The University Certificate in Education course is intended for graduates without a teaching qualification who wish to become teachers. The graduates do an introductory three-week course before teaching in a secondary school for one year. Then, they spend a year of full-time study at the School of Education in subject methodology and education and also have a period of teaching practice.

Teachers of technical subjects are trained either locally or at overseas polytechnics. Primary-school technical teachers and secondary-school technical teachers are trained locally while teachers for technical schools are trained mostly in the United Kingdom.

In Malawi, inservice teacher education is organized and carried out by a number of agencies which include the Malawi Institute of Education, the University of Malawi, the Malawi Correspondence College and Broadcasting Unit, and the ministry headquarters with its regional and district officers. The most important centre for inservice education is the Malawi Institute of Education whose facilities are specially built for this function.

The first type of inservice course is for unqualified primary-school teachers. This course aims to give them basic professional training in teaching skills and to upgrade their background knowledge in specific subject areas of the primary-school curriculum. The course comprises a correspondence element provided by the Malawi Correspondence College and Broadcasting Unit and a residential five-week course at the Malawi Institute of Education, followed by a follow-up workshop at district level after six months of teaching in primary schools. The unqualified teachers complete their training at regular teachers' colleges where they undergo two years of residential training before obtaining registration.

The second type of inservice course is for primary-school teachers who wish to be upgraded either from T4 to T3 or T3 to T2. The training aims to improve the quality of the teaching force in primary schools. The first phase of the course is by correspondence supplemented by radio programmes. The second phase is a five-week residential course at the Malawi Institute of Education during the long school holidays. The residential phase includes education courses but emphasis is laid on critical assessment of the primary-subject syllabi. The last phase consists of teaching in schools.

where newly acquired skills are put into practice. The district inspector of schools makes the final assessment leading to the upgrading of the teacher, which is confirmed by the issuing by the Registrar of Teachers of a new Authority-to-Teach Certificate.

Upgrading courses for secondary-school teachers are undertaken at the University of Malawi where teachers spend a year or two of residential study. In all cases, the courses consist of subject methodology, education, and teaching practice. Unqualified graduate teachers obtain a University Certificate of Education (UCE); diploma teachers can become graduate teachers by working for the two-year Bachelor of Education degree.

The last type of inservice course is a short course organized by the ministry headquarters or regional or district offices. These courses emphasize the devel-

opment of skills and an understanding of how the school system works.

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Malaysia

A. A. Aziz and H. Ahmad

Malaysia occupies two distinct geographical areas: Peninsular Malaysia, comprising the Malay Peninsula to the south of the Isthmus of Kra, and East Malaysia (the states of Sabah and Sarawak), consisting of the north and western regions of the island of Borneo. Both parts are separated by about 644 kilometers (400 miles) of the South China Sea. The total land area of Malaysia is about 336,700 square kilometers (130,000 square miles), of which Peninsular Malaysia occupies 134,680 square kilometers (52,000 square miles) and East Malaysia 202,020 square kilometers (78,000 square miles).

Western influence came with the capture of Malacca by the Portuguese in 1511 and later by the Dutch in 1642. Britain's connection with Peninsular Malaysia began with the establishment of trading settlements in Penang in 1786, Singapore in 1819, and Malacca in 1824. British influence and authority over North Borneo (Sabah and Sarawak) were established almost concurrently with British expansion in the Malay Peninsula.

In 1955, Malaya achieved self-government, gaining independence in 1957 and adopting a system of con-

stitutional monarchy with a popularly elected government. The Federation of Malaysia, with Sabah and Sarawak, was formed in 1963. The expansion of the tin industry brought in a large number of Chinese, and the growth of the rubber industry resulted in an influx of Indian immigrants. These events gave rise to the existing plural society comprising the three major ethnic groups—Malays, Chinese, and Indians.

The population of Malaysia in 1980 was estimated at 14.3 million with a yearly increase of 2.8 percent. The population by age group over the period 1970-80 is shown in Table 1.

Agriculture remains a major occupation and accounts for the highest percentage of the labor force. The utilization of human resources is shown in Table 2.

Malaysia is now an elective constitutional monarchy. The federal government has authority over external affairs, defense, internal security, justice (except Islamic and native law), federal citizenship, finance, commerce, industry, communications, education, and other related matters.

Table 1
Population by age group 1970-80^a

Age group	1970		1975		1980	
	thousands	%	thousands	%	thousands	%
0-14	4,792.4	44.5	5,230.0	42.0	5,632.2	39.5
15-64	5,631.4	52.2	6,776.0	54.4	8,103.9	56.8
65+	353.1	3.3	443.9	3.6	525.1	3.7
Total	10,776.9	100.0	12,449.9	100.0	14,261.2	100.0

^a Source: adapted from Malaysia, Government of 1981 p. 80

Educational planning is undertaken at two levels. At the national level, it forms part of the overall economic planning conducted by the National Development Planning Committee, which operates through the Economic Planning Unit attached to the Prime Minister's Department. At the ministry level, planning is coordinated by the Educational Planning and Research Division. Plans are submitted to the Educational Planning Committee for consideration and policy decisions. This committee is a high-level decision-making body chaired by the minister of education, and its functions are mainly to consider and, if necessary, to approve educational development plans and annual budgets.

The administrative unit at the state level is headed by a director of education assisted by a deputy and a core of professional officers. The administrative unit at divisional level is a distinct feature of educational organization in Sabah and Sarawak. Geographically, each state is relatively large and is divided into several administrative regions or divisions. The divisional education officer heads the divisional office with the assistance of several professional officers. At the school level, the headteacher or principal is the administrative head, assisted by a senior assistant, teachers, and non-professional staff.

School supervision is carried out by the federal inspectorate of schools through a regular program of school visits which are of three types: an ordinary school visit, a full inspection, and a block inspection. In addition to school visits, the federal inspectorate also organizes courses for teachers on strategies for classroom teaching.

4. Teacher Education

Teachers for primary, lower-secondary, and vocational schools are trained by the Teacher Training Division of the Ministry of Education, and those for upper-secondary schools by the universities.

In 1973, the Teacher Training Division launched the Integrated Teacher Training Program for teachers in Peninsular Malaysia. In the first year, all trainees undergo a common course on intermediate childhood education. In the second year, they follow one of two courses: (a) early childhood education (ECE), which includes exposure to preschool education; or (b) early adolescent education (EAE), which includes courses on the curriculum for forms 2 and 3. This program produces two groups of teachers: Group A to teach from standard 1 through form 1, and Group B to teach from standard 4 through form 3.

The Ministry of Education conducts inservice courses for teachers for all levels of the school system. The courses are conducted by such divisions as the Teacher Training Division, Curriculum Development Center, and the Schools Division. In 1979, the Ministry of Education Staff Training Institute (MESTI) was established specifically to streamline further inservice training for all levels of staff in the teaching profession.

5. Curriculum Development

Prior to January 1973, curriculum development was coordinated by the curriculum section of the Educational Planning and Research Division of the Ministry of Education. Curriculum development was subject based, consisting mainly of the preparation of subject syllabi, the development of teachers' guides and teacher retraining programs, and the supervision of textbook production either by the *Dewan Bahasa dan Pustaka* (the Language and Literary Agency, a statutory body of the ministry) or by authors in the private sector.

The Curriculum Development Center, which was established in 1973, was assigned with the responsibility of helping to raise the standard of education on the basis of national aspirations. The center plays an important role in the development of a national curriculum. It continuously evaluates schools' curricula, develops curriculum-related modules, and disseminates curricula by retraining primary- and secondary-school teachers through inservice courses.

The *Cabinet Committee Report* (Ministry of Education 1979) recommended two major curriculum innovations within the school system: (a) a review of the primary-school curriculum with a focus on the basic subjects; and (b) a general education program for the secondary level.

The new primary-school curriculum is being implemented in phases. In 1982, 302 primary schools began the program in standard 1, and in 1983 the program was implemented in standard 1 in all schools. By 1988, all primary schools, at all grades, are scheduled to use the curriculum.

6. Educational Research

All research relating to education is coordinated by the Educational Planning and Research Division (EPRD) in the Ministry of Education. The Educational Planning and Research Division itself conducts projects which form the basis for defining issues and for decision making by the highest policy body, the Educational Planning Committee. Educational research activities in Malaysia can be divided into four broad groups:

- (a) Studies conducted by agencies of the Ministry of Education to form the basis for broad policy formulations and plans for action. Two examples of such agencies are the Educational Planning and Research Division, dealing with general policy issues and research problems, and the Curriculum Development Center, which tackles specific problem areas and issues arising from the national curriculum.
- (b) Studies performed by researchers from international agencies such as UNICEF, United Nations Development Programme (UNDP), UNESCO, the Regional Center for Educational Innovation and Technology, Southeast Asia (INNOTECH), or the

Van Leer Foundation, working in collaboration with locally recruited educational researchers appointed by the Ministry of Education. Such studies include the Dropout Study (1973), Project DELSILIFE (Development of a Coordinated Educational Intervention System for Improving the Quality of Life of the Rural Poor through Self-reliance), and the Compensatory Education Project.

- (c) Projects conducted by faculty members from Malaysian universities either in collaboration with research personnel from various other agencies of the ministry, or in pursuance of their professional academic interests.
- (d) Investigations conducted by private individuals, either foreigners or locals, and especially by graduate or undergraduate students, in pursuance of their respective degrees.

7. Major Problems

Education in Malaysia is often considered as a primary instrument in promoting individual and social change. Within the context of this function, it has become a crucial variable in the attainment of national development objectives. The national educational system, guided by the objectives of the Razak Report (1956), the report of the Education Review Committee (Malaysia, Government of 1960), and the report of the Cabinet Committee on Education (Ministry of Education 1979), thus plays a major, multipurpose role in the economic, social, and political development of the country. Diverse weights are assigned to these ends in the succession of five-year national development plans of Malaysia, and education has claimed a relatively large share of the nation's resources. It is anticipated that in future development plans the allocation for education will remain high.

The overriding objective of education in Malaysia is national unity. It is firmly believed that through a unified educational system with a common curriculum content the foundations of a united and harmonious nation will be laid. Education is also regarded as an important means to achieve the twin objectives of the New Economic Policy, namely: (a) the eradication of poverty by raising income levels and increasing employment opportunities of all Malaysians irrespective of race;

and (b) the acceleration of the process of restructuring Malaysian society to correct economic imbalances so as to reduce and eventually to eliminate the identification of race with economic function. In this respect, the school system is expected to play a complementary role in personnel-planning programs. The various streams (arts, science, technical, and vocational) in upper-secondary schools are directly related to the country's personnel requirements.

The need for rapid expansion of educational facilities to meet the increasing school population has gradually eased. Increasing attention is being paid to the consolidation of the educational system and curriculum improvement with priority emphasis laid on the improvement of the quality of education, the reduction of wastage, and the increased effectiveness of education for nation building.

Recommendations of the *Cabinet Committee Report on Education* in 1979 included: removing inequalities in participation in education; upgrading teaching-learning conditions through the medium of Bahasa Malaysia; improving opportunities for educational attainment among youths from disadvantaged groups; revitalizing the curriculum for the development of stronger spiritual, moral, and ethical qualities of citizenship among school children; balancing the academic, technical, and vocational streams; and streamlining the management of the educational system.

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Maldives

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The Republic of Maldives is an island nation in the Indian Ocean. The archipelago is about 483 kilometres (300 miles) southwest of the southern tip of India. It

consists of 1,186 islands grouped into 19 administrative atolls. The islands, whose total land mass is 298 square kilometres (115 square miles), is spread over an area of

Table 2
Occupational distribution of personnel 1980^a

	Thousands	%
Professional and technical	278.3	5.5
Administration and managerial	62.2	1.2
Clerical	277.7	5.4
Wholesale and retail	481.9	9.5
Services	447.6	8.8
Agriculture	1,979.0	38.8
Manufacturing	1,566.8	30.8
Total	5,093.5	100.0

a Source: adapted from Malaysia, Government of 1981 p. 98

Education in the prewar and pre-independence period developed along racial and ethnic lines. There were four kinds of school, using English, Malay, Chinese, and Tamil as the media of instruction. The years following the Second World War were periods of reconstruction toward the development of a unified system of education. In the present system of education, the stated objective is to bring together children of all races within a national educational system in which the national language (Bahasa Malaysia) is the main medium of instruction.

1. General Structure and Size of the Education Effort

Formal education in Malaysia begins at age 6 in the primary schools and has a 6 + 3 + 2 + 2 system of primary, secondary (lower and upper), and postsecondary education (Fig. 1).

At the primary level, there are three media of instruction: Bahasa Malaysia, Chinese, and Tamil. In all schools, and at all levels, English is taught as a compulsory second language. Promotion at the primary and lower-secondary levels is automatic. In 1980, 2,006,748 children attended primary schools, more than 93 percent of the population cohort between the ages of 6 and 11 (Fig. 2). It is expected that about 90 percent of the cohort will progress from standard 6 of primary to form 1 of lower-secondary education.

All primary schools, irrespective of the medium of instruction, use a common syllabus to ensure that all pupils follow a course whose content reflects a Malaysian outlook. Each school conducts its own evaluation of pupils. Tests are administered regularly, whether weekly, monthly, or at term end. In addition, centralized assessments are conducted yearly for all pupils in standard 5. This national assessment is used to determine the level of pupil achievement and the remedial activities required before the pupils enter secondary schools.

At the lower-secondary level (forms 1-3), pupils undergo automatic promotion through the three levels.

Thus, a child has a minimum schooling of nine years. Pupils in standard 6 in the Chinese- or Tamil-medium schools have an additional year in the "remove class" before proceeding to form 1 of lower-secondary school. In the remove class, pupils are expected to acquire proficiency in Bahasa Malaysia. In 1980, a total of 809,663 children ranging from age 12 to age 14 followed lower-secondary education.

The lower-secondary level offers a comprehensive type of education. In addition to academic subjects, studies of a prevocational nature such as industrial arts, home science, agricultural science, and commercial studies are included. All pupils are required to take at least one of the prevocational subjects, the main aim being to expose them to some practical studies. At the end of form 3, pupils sit for the Lower Certificate of Education examination. On the basis of results in this examination, pupils are selected to proceed to the upper-secondary level and are channeled into various streams, such as science, arts, technical, and vocational.

At the upper-secondary level (forms 4-5), education consists of academic (arts or science), technical, and vocational streams. In 1980, the total number of pupils in the upper-secondary level was 248,804. At the end of the second year, pupils in the academic and technical streams sit for the Malaysian Certificate of Education

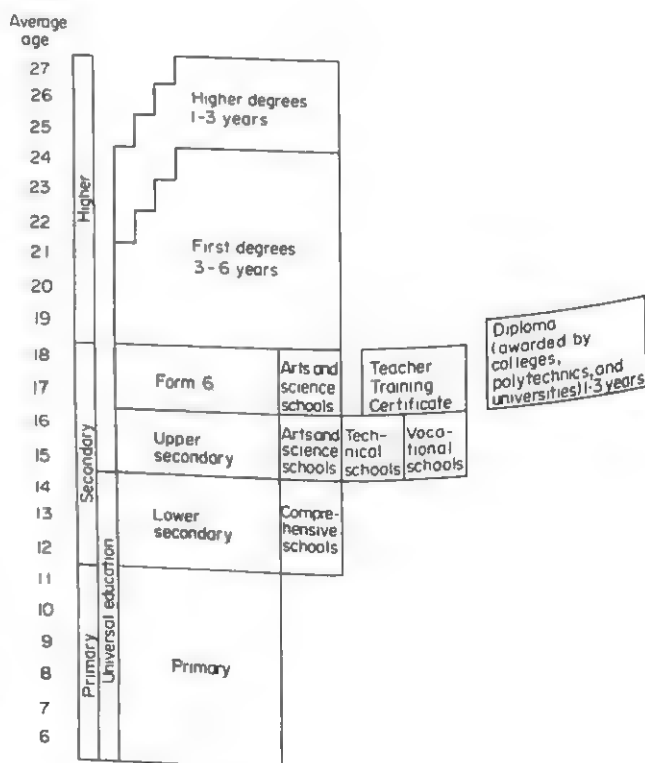


Figure 1
Structure of formal education^a

a Source: Malaysia, Government of 1980 p. 19

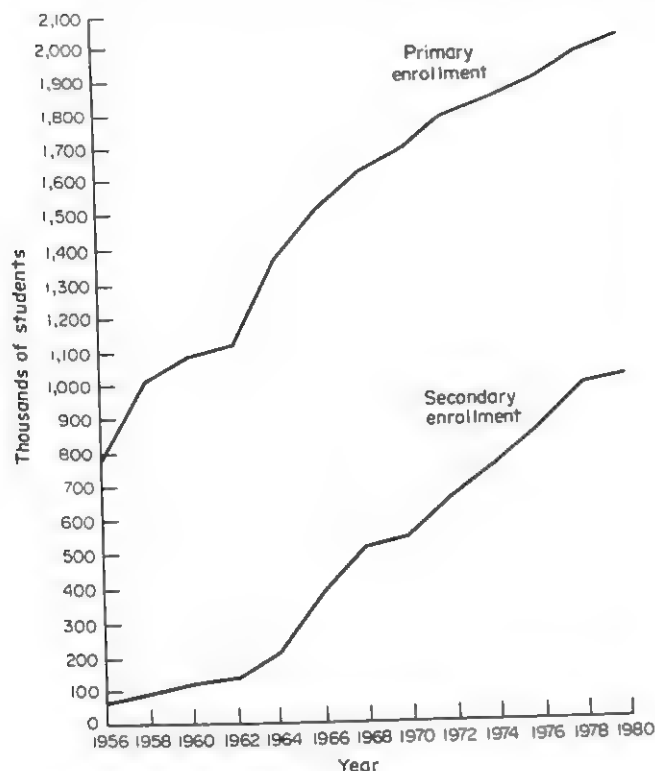


Figure 2
Enrollment of students in primary and secondary schools
1956-80^a

a Source: Malaysia, Government of 1980 p. 20

or *Sijil Pelajaran Malaysia* examination (in English and Bahasa Malaysia respectively), and pupils in the vocational stream sit for the Malaysian Vocational Certificate of Education. These examinations provide entry qualifications for posts in the public and private sectors. The tests are also utilized as a basis for selection into the postsecondary level (form 6) or for entry to the various courses at the tertiary level.

At the preuniversity level (form 6—lower and upper), education is streamed into science and arts. Pupils are selected on the basis of their performance in the Malaysian Certificate of Education or *Sijil Pelajaran Malaysia* examinations. In 1980, the enrollment was 27,062. At the end of the second year, the students sit for the Higher School Certificate or *Sijil Tinggi Persekolahan* in English or Bahasa Malaysia respectively. The results in this examination determine student entrance into local as well as accredited foreign universities and colleges. It is also a qualification for appointment to certain jobs in the government and the private sector.

All out-of-school training programs are run independently of the formal school system. However, the curricula of all such programs complement the vocational and technical subjects offered in the schools.

The agencies responsible for out-of-school training programs include the Board of National Unity of the Prime Minister's Department, the Agriculture and Community Development Division, the Veterinary and Fisheries Department of the Ministry of Agriculture and Rural Development, the Manpower Department of the Ministry of Culture, Youth, and Sports, the Ministry of Welfare Services, the Department of Prisons of the Ministry of Home Affairs, and the Department of Broadcasting and Information of the Ministry of Information. The programs they provide are mainly concerned with development of technical skills—either on the job or in preparation for employment. Links are maintained with the Ministry of Education through the participation of officers and teachers brought in from time to time to assist in the preparation of the curriculum and to conduct specific portions of the training program.

In an effort to provide maximum opportunities for the rural population, the Malay and Rural Development Agency (MARA) and the Community Development Division of the Ministry of Agriculture have developed training programs geared mainly towards rural youths.

2. Finance

Education is free at the primary level, but students pay a tuition fee in those secondary schools which were previously English-medium schools. Schools are allowed to collect fees for miscellaneous expenditure such as library and sports activities. In addition, the government gives assistance, in the form of money for recurrent expenditure, to purchase necessary materials for such subjects as science, arts, and home science. The amount is based on the number of pupils enrolled in the school.

The cost of education, both capital and recurrent, is financed mainly from public revenue. The development expenditure in education during the second Malaysia plan period (1971-75) was US\$658.64 million. For the third Malaysia plan (1976-80), US\$1,308.14 million was allocated for development expenditure. The amount set in the fourth Malaysia plan (1981-85) was US\$2,243.89 million (Malaysia, Government of 1980 p. 408).

The per pupil expenditures for the different levels of education are: primary US\$240, secondary US\$345, and technical-vocational US\$950.

3. Administrative and Supervisory Structure and Operation

The national system of education in Malaysia is centrally based with the administrative machinery organized on four hierarchical levels: federal (central), state, division or district, and school.

At the federal level, the Ministry of Education is responsible for educational policies, drawing up plans for implementation, and running the overall administrative machinery of the entire system.

100,000 square kilometres (38,610 square miles). The Maldivian Islands have enjoyed self-rule for most of the country's known history. In 1887, the Government of the Maldivian Islands opted for the status of a protectorate under the British Government. The country gained full political independence in 1965. Since then, it has taken major strides in social and economic development, but in spite of such efforts the country has remained one of the economically poorest countries in the less developed countries (LDC) group.

Maldives is among the 20 poorest countries in the world in terms of gross national product per capita. It is also among the poorest of the islands developing countries (IDCs) which the United Nations first identified in 1974 as being in need of special assistance. Maldives faces many constraints similar to those facing other small and remote island nations. It has few national resources, no known minerals, a relatively small domestic market, and an extremely small area of cultivable land. Today, the major economic activities are fishing, tourism, and international shipping.

The population of Maldives (estimated to be 153,000 in 1980) is expected to increase to some 248,000 people by the year 2000. The present population is spread over 202 islands, but almost one-third of the population is in the capital island Male' which covers only 3 square kilometres (1.16 square miles). The population speaks one national language, Dhivehi, although there are regional differences in dialect. The ethnic composition of the population is a well-represented mix of Indian, African, Arab, and Malay Polynesian stock and the country claims a 100 percent Moslem Sunnite population. As a result, the country is fortunate in having a relatively homogeneous population.

1. General Structure of the Educational Effort

The general educational effort is characterized by a dual system: the Dhivehi-medium "traditional" schools and English-medium "modern" schools. Most of the traditional schools are thinly spread out across the country in all atolls. They comprise many types of small school. One type is the community-based small school called *makthab* where children of both sexes learn to read the Koran, read and write Dhivehi and Arabic scripts, and to do simple arithmetic. Children aged from 3 to 7 attend these schools. In addition to the *makthabs*, there are Dhivehi-medium primary schools called *madhrasaas*. Here the children are taught a broader education. These schools have additional subjects like general knowledge, moral studies, and physical education. Children who attend *madhrasaas* range from 4 to 19 years in age. Promotion and grading is normally based on mastery of knowledge rather than age. Teachers in these schools are mostly untrained and part-time.

A completely informal family-based learning system exists in Maldives. Most parents assume the duty of instructing young children to read the Koran and read

and write Dhivehi, Arabic, and the numerals. This duty is most often performed by mothers. If the parents are unable to do it, however, then the children are either sent to an *edhuruge* (house of the teacher), or an *edhurube* (man-teacher) or *edhuru-dhathitha* (woman-teacher) is brought to the home. This system of family-based learning together with the *makthabs* are primarily responsible for the high rate of literacy (82 percent).

The "modern" school system was introduced in 1960. English-medium preprimary, primary, and secondary schools exist in Male' and serve a small elite group. They are geared to the University of London General Certificate of Education (GCE) Ordinary- and Advanced-level examinations. Students who pass these examinations go abroad for higher education. There is no university in the country.

The English-medium schools in Male' consist of one preschool and two full-cycle (grades 1-10) schools and the Science Education Centre. These are all fully supported by the government. In addition there is the state-run Vocational Training Centre and the Institute of Islamic Studies. All these schools come under the Ministry of Education.

The Educational Development Centre under the Ministry of Education is setting up Atoll (Community) Education Centres—one in each of the 19 atolls. Each atoll will soon have at least three state-run schools—an Atoll (Community) Education Centre, a traditional atoll school, and an elementary school (built under Japanese assistance). The function of these schools in the atolls is mainly to develop a modern primary education in the Dhivehi medium.

The Vocational Training Centre established in 1975 offers courses in refrigeration, electricity, diesel engine repair and maintenance, welding, and machinery. The centre is in need of further expansion and revision due to changes in the economy which include mechanization of the fishing industry, establishment of manufacturing industries, and growth of the tourist industry.

In addition to the above, transfer of skills and knowledge takes place through on-the-job training, apprenticeships, evening classes, and instruction via radio and television. Of the programmes broadcast on the official Voice of Maldives, almost 12 percent are educational programmes.

2. Curriculum Development and Examinations

The English-medium stream in Male' was set up to prepare students for the GCE Ordinary- and Advanced-level examinations of the University of London. A few students who come out of this stream sit also for the London Chamber of Commerce elementary- and intermediate-level examinations. As a result, the curriculum of this stream is geared exclusively towards the above examinations.

The Ministry of Education announced in January, 1980, a Dhivehi-medium curriculum for use in all schools. It consists of nine subjects for grades 1 to 5. In

order to implement this curriculum, the Educational Development Centre has produced trial materials for the first two grades in five of those subjects, but difficulty in finding full-time curriculum developers and textbook writers continues to be a nagging problem. The trial materials are being used in the pilot Atoll (Community) Education Centres and in the state-run atoll schools.

3. Supply of Personnel

Until recently, the country had no institutions of learning above the secondary level. As a result, anyone requiring education beyond the secondary level had to be sent abroad to foreign universities and institutions. In 1981 the country had a total of only 56 university graduates. Due to this chronic shortage of trained personnel, educational development is severely hampered.

Maldives relies heavily on expatriate teachers for its English-medium education in Male'. The expenses of these teachers constitute a very high percentage of the total budget of the Ministry of Education. As a result, some effort is being made to train teachers in Maldives to replace the expatriates. Initially, this effort consists of training primary teachers in English. The Educational Development Centre has been conducting a preservice primary-teacher training course in English since 1980 but has been more successful in the training of Dhivehi-medium teachers for the atolls. The latter training programme includes inservice courses periodically offered both in Male' and in the atolls.

Maldives will continue to rely on foreign educational institutions to train its educational personnel for many years to come. Until now, such training has been financed mainly through fellowships offered to the government by other countries and by international agencies.

4. Finance

There are four different sources for financing education in Maldives. Firstly, the budget of the central government is the main source of financing education in the country. The 1982 share of the government's total budget for education is estimated to be more than 14 percent. This amount is the budget made available to the Ministry of Education. In addition to this, the Ministries of Health, Home Affairs, and Provincial Affairs also carry out other formal training programmes.

Secondly, voluntary contributions from the island community represent a considerable input into schooling in the atolls. The community contributions come both in kind and in cash. Different islands have different schemes for generating this assistance. Many islands have *People's Accounts* which receive regular income. Others have ad hoc arrangements for fund raising which are implemented when the need arises. The communities participate in the construction of schools by providing local building materials, labour, and other voluntary contributions in varying amounts.

Thirdly, many private schools levy fees. School fees in 1982 ranged from Rf.1.00 per student in the atolls to Rf.25.00 per student in Male'.

Fourthly, bilateral and multilateral sources contribute towards some capital and recurrent costs in education.

5. Major Problems

Expansion of the educational system to reach all students of school age will continue to be the major issue facing educators in the Maldives in the 1980s and 1990s. However, cooperative efforts on the part of the government and island communities could make universal primary education a reality before the end of the century.

The peculiar geographical conditions of the island communities prohibit primary-age children from commuting to other islands for schooling. Educationalists face the unique challenge of having to develop educational services relevant to the real-life situations of each of the 202 separate island communities.

It would be possible to concentrate higher levels of education—secondary, upper-secondary, and specialized vocational courses—on particular islands. Together with this, it may also be possible to expand the functions of the Atoll Education Centres to include secondary education and vocational technical education. Older pupils from other islands can then be encouraged to reside on the islands having Atoll Education Centres, but this will require the establishment of boarding facilities annexed to the centres.

The education of adults and out-of-school youths will have to be provided for through more innovative methods. At present Maldives has a high literacy rate (82 percent) and a very low enrolment rate (24 percent). It requires functional, nonformal programmes relevant to work opportunities. Most of the women and children stay on the islands while the men go fishing, staying out

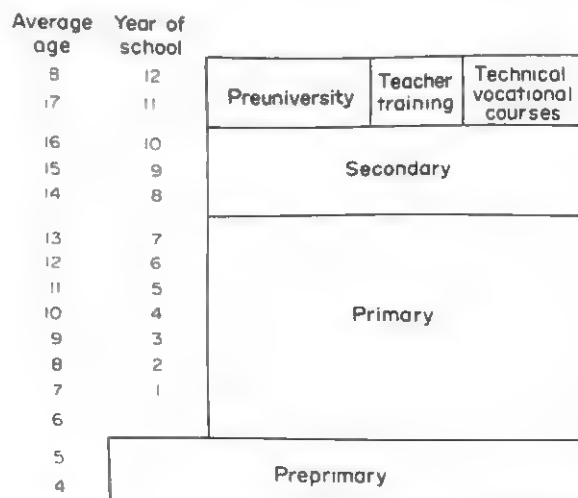


Figure 1
Structure of the "modern" school system

all day long. Nonformal educational programmes should take this situation into account.

Qualitative improvement in educational programmes is another area of concern which the Ministry of Education has to face. The evaluation and revision of all on-going programmes as well as new programmes will be hampered mainly due to the lack of trained personnel. Numerous innovative educational programmes are under way which need systematic evaluation and revision.

Lack of trained personnel is a crucial factor limiting further development. Only a few people in the educational system have the required skills in planning, curriculum development, teacher education, formal and nonformal education, vocational and technical education, and other high-priority fields. This critical

shortage must be overcome if the present programmes are to be expanded or improved in quality.

Most if not all training in higher level skills will have to be acquired in other countries before sufficient personnel exist for a national capacity for such training to be developed. This will require an increased level of technical assistance from bilateral and multilateral sources.

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Mali

S. Diakité

The Republic of Mali is a landlocked country located in the western part of the African continent. It is a former French colony that attained political independence in 1960, after the breakdown of a federation with neighboring Senegal. Its first government was socialist oriented. It was overthrown in 1968 by a military coup.

With its 1,204,000 square kilometers (464,864 square miles), the Republic of Mali is one of the largest countries in Africa. Like other Sahelian countries, it has been drastically affected by persistent drought throughout the 1970s. It is devoid of natural resources and access to most of the cities located in its Saharian and Sahelian areas is difficult; in the rainy season, cities located in the central delta of the Niger River are also difficult to reach. Such geographical features make communication difficult between the Ministry of Education and schools and they explain in part the decision made in 1981 by the government to create regional offices of education.

The 1976 population census estimated the Malian population at 6,308,000 citizens with a population concentration of less than six people per square kilometer. Population is unequally distributed between regions and the population density in the Saharian area is less than one person per square kilometer. This makes it difficult for the Ministry of Education to implement schooling and many villages lack schools. Most of the educational effort has gone into developing schooling in the most inhabited areas. One consequence is that children in villages sometimes have to go up to 15 kilometers to get to the nearest school; the only way these children can get to school is on foot. It is no wonder that such children are not motivated to attend school, and that access to school is unequal in urban and rural areas. Over 83 percent of the population live in rural areas and the annual population growth rate is 2.6 percent.

The Ministry of Education has continuously to make additional efforts to maintain a constant rate of schooling.

There are at least 15 ethnic groups in Mali but the most important are Bamana, Peulh, Minianka, Senufo, Dogon, and Sonrhail. Each ethnic group has its own language. The government has sought to solve the language problem by adopting French as the medium of instruction in schools and as the official language. However, efforts are being made to develop national languages as media of instruction and an experimental project using Bamana in schools in Bamana-speaking areas is under way.

Occupational structures have significantly changed from the colonial period to the present day but the colonial philosophy of producing clerical workers is still strong. Education has followed this path and one of its main trends is to produce clerical workers. At the same time the social infrastructure of production is capitalist oriented and more and more people are unable to afford the cost of education. In terms of the structure of the economy, the primary sector (agriculture) is the most important employing 93 percent of the population and providing 45 percent of the gross national product (GNP). The secondary sector (manufacturing industry) is in its infant stage employing less than 3 percent of the population. The tertiary sector (service) employs about 4.5 percent of the population. Such an economic structure led the Ministry of Education to develop at the national level an educational feature called "ruralization" at the beginning of the 1980s.

1. Goals of the Education System

It is impossible to speak of goals of education in Mali without referring to the 1962 Reform. This reform stated five main goals for education:

- (a) to provide mass education of high quality;
- (b) to decolonize people's mentality;
- (c) to provide education able to maintain equivalency with education provided in other modern countries;
- (d) to promote not only African and Malian values but also universal values;
- (e) to promote an education system able to provide, in a very short time, all the cadres needed in the production process.

Officially, school was compulsory for all children aged 6 to 8 years and, initially, school attendance did not entail additional costs for the parents. But the situation has changed and even at an official level an executive order in 1981 stated that this compulsory education was only compulsory within state budget limits.

2. General Structure and Size of Education Effort

2.1 Formal Education System

In Mali, there is basic education, secondary education, and higher education. Besides these types of education, there are other institutions in charge of education development.

Basic education is the first phase in the sequence of the education system in Mali. It comprises nine grades of education, is organized nationally, and is highly centralized administratively. It is split into a first level of six years (6–7 to 12–13 years of age) and a second level of three years (12–13 to 15–16 years of age). Its aims are to enable children to accomplish their responsibilities—defined as economic and political responsibilities in the context of the state apparatus—and to allow the most able children to enter secondary education.

Since the early 1960s, enrollments in basic education have increased as shown in Fig. 1. The provision of schools increased from one school per 3,403 square

kilometers in 1960 to one school per 933.73 square kilometers in 1978. In that period, the increase in the number of schools was 375 percent. Although the enrollment rate increased 118 percent from 1969 to 1978, there are still severe problems. Only 20 percent of children of school age are in school. This is a serious problem as far as mass education is concerned. One reason for this is that almost 93 percent of the educational budget goes on services.

At the end of sixth grade children take an examination known as the Certificate of First Level Completion. The only objective of this exam is for children to gain access to the second level of basic education. From 1970 to 1980, the average rate of success in the exam was less than 50 percent. Given that before the sixth grade there is a considerable dropout, it can be seen that this first level of education is attained by few children.

The second level of basic education has developed significantly from 1960 to the present day. In 1960, there were only 73 classes in the second level of basic education. From 1960 to 1978, the number of classes increased to 428. The number of children enrolled increased from 4,987 to 52,051. At the end of the ninth grade, pupils take an exam called the Basic Education Diploma. The recognized role of this diploma is for children to enter secondary education—either to general-secondary, technical-secondary, professional-secondary, or teacher-training schools. From 1970 to 1977, the average rate of success was 34 percent, reinforcing the point made earlier, namely the selective character of basic education in Mali. Those who are unable to go further than basic education seek either to enter other training institutions outside the control of the Ministry of Education (such as the Ministry of Health and Social Welfare or the Ministry of Agriculture) or to enter employment in the private sector.

All basic schools are state controlled, except for a few schools run by priests. However, for both types of school, the curricula, timetables, and teaching materials are the same and pupils in private schools take the same exams as those in public schools.

Secondary education includes general-secondary schools, technical-secondary schools, professional-secondary schools, and teacher-training schools. General- and technical-secondary-school education both last three years after completion of basic education. In the 11th grade, a first exam known as the first part of the *baccalauréat* is taken. Those who succeed take the second part of the *baccalauréat* in 12th grade. The recognized objective of these exams is to gain access to higher education. From 1972 to 1977, there was more than a 55 percent increase in enrollment for general- and technical-secondary schools. Professional-secondary-school education lasts two to four years; the goal is to train middle-level cadres. Some professional schools set an entrance examination which can be taken by those who are successful in the Basic Education Diploma. Despite this few attend the professional-secondary schools.

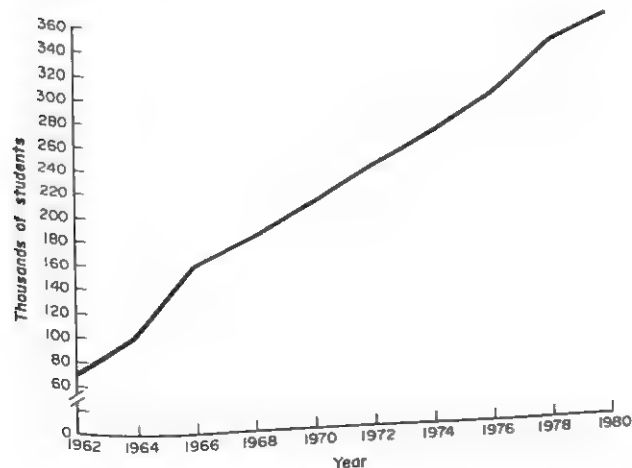


Figure 1
Basic education enrollment 1962–80

Higher education centers have been a major innovation. Instead of creating a university, the Republic of Mali has opted for separate higher education centers, each one related to a particular sector of the economy. Each center offers training at one of two levels: the majority cater for the bachelor level but some provide training at the graduate (doctoral) level. Before 1960 such training was not available: from 1970 to the present day, seven higher education centers have been created. From 1970 to 1978, the increase in enrollment was 605 percent. Study can take from two to seven years after completion of the second part of the *baccalauréat*. Most students are aged between 19 and 23–25 years. Their entry to a higher education center depends on success in an entrance examination. Few professional workers attend these training centers. Entry to doctoral studies comes after some years of professional experience. It should be pointed out that not all who pass the second part of *baccalauréat* can be trained inside Mali; some 20 percent of them are trained abroad.

2.2 Nonformal Education

The purpose of nonformal education is to ensure that adults in rural areas not only learn to read and write their own language but also master new techniques of production. The National Office of Functional Literacy and Applied Linguistics, a section of the Ministry of Education, is responsible for nonformal education. Nonformal education programs are usually connected to larger rural projects. In 1978, 28,855 men and women were involved in nonformal education programs.

3. Finance

Since becoming independent, the Republic of Mali has devoted large sums of money to education. From 1968 to 1978, the percentage of the total state budget devoted to education rose from 13.8 to 29.6 percent. In 1979, it was 33 percent and amounted to 5.5 percent of the GNP. The proportion that basic education receives is decreasing due to the rapid development of secondary and higher education. In the early 1970s, basic education was allocated 52 percent of the education budget; by the end of the 1970s, its share had dropped to 43 percent. The part of the budget devoted to general, technical, and professional schools is 18 percent, that to teacher-training schools is 5.1 percent, that to higher training centers 13 percent, and that to nonformal education 0.6 percent. Over 90 percent of the education budget goes to services, while less than 6 percent goes to equipment and infrastructure. The unit cost per student in basic education is about US\$55, in general-secondary schools US\$416, in technical-secondary schools US\$626, in teacher-training schools US\$904, and in higher training centers US\$1,258. These unit costs correspond respectively to 0.4, 3, 4.5, 6.5, and 9 percent of the per capita national product.

Private funds are increasing and include contributions from student-parent associations and from foreign

agencies. Contributions of student-parent associations amount to more than 10 percent of the total education budget. General, technical, and professional secondary students used to receive financial aid (such as stipends) from the government, but the financial crisis is such that in 1980 this aid was cut off. All students in training schools and higher training centers continue to receive financial aid.

4. Supply of Personnel

All teachers at the basic education level are national citizens. In 1978, there were 8,817. They are trained in general pedagogical institutes for two years following completion of the Basic Education Diploma. There is a great shortage of such teachers, with over 10 percent too few teachers for the academic year 1981–82. Training includes the mastering of practical skills in the Ruralization Campaign. Teachers for the second level of basic education are trained in secondary teacher-training institutes. There is an overproduction of teachers at this level. The practice also exists whereby students who are unsuccessful in the higher education training centers can take a short training course in order to become teachers at the second level of basic education if they so wish. Teachers for general-, technical-, and professional-secondary schools are trained in higher teacher-training schools. At that level, there is a shortage of mathematics, physics, and chemistry teachers.

5. Major Problems

One of the main problems facing the Malian education system in the coming decades is that of ensuring mass education at the first level of basic education for all children. Given that 20 years after independence only 20 percent of all children attend the first level of education, it is probably justified to be sceptical about attaining universal primary education in the near future.

Better planning, supported by educational research—which is, at present, nonexistent—is required if the Malian education system is to help promote social, economic, and political development

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Malta

C. J. Farrugia

The Maltese islands, located in the centre of the Mediterranean Sea, 90 kilometres (56 miles) south of Sicily and 290 kilometres (180 miles) north of the African mainland, enjoy a typically Mediterranean climate with hot, dry summers and mild winters. The three islands, Malta, Gozo, and Comino, cover an area of 316 square kilometres (122 square miles) and contain a population of 317,000 (1980). The current birth rate is 17 per 1,000 and the death rate is 10 per 1,000.

The strategic location of the islands, combined with the excellent harbour facilities, has strongly influenced both the history and economy of Malta. Virtually all dominant nations in the region since the Phoenicians have occupied the islands at different times, most recently the British. For centuries, Malta survived economically through its role as a fortress and by providing services to one or other military establishment. Consequently, no major local economic initiatives emerged to supplement the service offered to the island's military occupiers and to earn nonmilitary foreign exchange.

In the 1950s, the British government scaled down drastically its military expenditure, with the result that the islands were faced with the certain decline of their major source of employment and livelihood. The Maltese government embarked on an extensive programme of economic diversification aimed at accelerating the growth rate through new forms of economic activity, such as the creation of an export-based industrial sector, a large-scale tourist industry, an emphasis on commercial ship repairing, and transshipment. Malta became independent in 1964.

The economy has grown rapidly with an increase in per capita gross national product of 10 percent per annum in real terms between 1970 and 1980. The general economic expansion and the redeployment of the islands' limited national resources have been accompanied by improved living standards and heightened social expectations. Throughout the 1980s, the Malta development plan aims to continue with the national policy of operating a mixed economic structure, where government lays down the broad economic-policy guidelines to regulate growth and with the state participating directly in a number of economic sectors.

1. Educational Background

The first state school in Malta was established in 1397. However, until the mid-sixteenth century, regular schooling was provided mainly by religious orders for those intending to join them. In 1572, Pope Clement VIII promulgated a papal bull authorizing the Jesuits to open a college for higher education in Valletta. In 1768, the college was taken over by the state and established as the University of Malta.

In the late nineteenth century, the Maltese edu-

cational authorities initiated serious attempts to eradicate mass illiteracy and lay the foundations for universal education. Legislation for compulsory attendance was enacted in 1924, while the Education Act (1946) made schooling between the ages of 6 and 14 compulsory. Secondary school for all was introduced in 1970, and the compulsory school age was extended to 16 in 1974.

2. Goals of Education

The goals of educational policy have been outlined in a succession of five- and seven-year development plans which advocate radical educational reforms and stress the importance of education for human development. Education at the various levels is closely related to the needs of the economy and ensures that educational programmes are designed to serve the country's process of economic development. The islands' educational reforms are envisaged as: (a) establishing a closer relation between education and work; (b) serving more effectively the country's personnel requirements; and (c) making the educational system, in particular the tertiary sector, fully accessible to all by reforming the traditional university enrolment pattern so as to permit greater equality of opportunity.

3. General Structure of the Educational Effort

The Maltese educational system is highly centralized with the Ministry of Education providing overall guidance and control. The Department of Education administers the public educational sector; it employs teaching and supportive personnel, sets curricula, provides teaching materials, school buildings, and generally provides the organization for all formal and nonformal public education. The department technically has legislative jurisdiction over private (mostly church-run), fee-paying schools, but in effect these regulate their own academic and nonacademic affairs. The University of Malta is an autonomous academic institution working closely with all sectors of the economy. Figure 1 illustrates the student flow through the Maltese educational system.

The Department of Education provides formal education in the following sectors (Malta, Department of Education 1983):

- (a) kindergarten (62 centres with 3,819 children);
- (b) primary (80 schools with 24,434 pupils);
- (c) secondary: (i) area secondary schools for pupils who conclude six years of primary schooling (30 schools with 14,216 pupils), (ii) junior lyceums for pupils who enter through highly selective examinations at the end of primary schooling (four schools with 4,646 pupils), and (iii) new lyceums (two upper-secondary schools with 1,117 students);

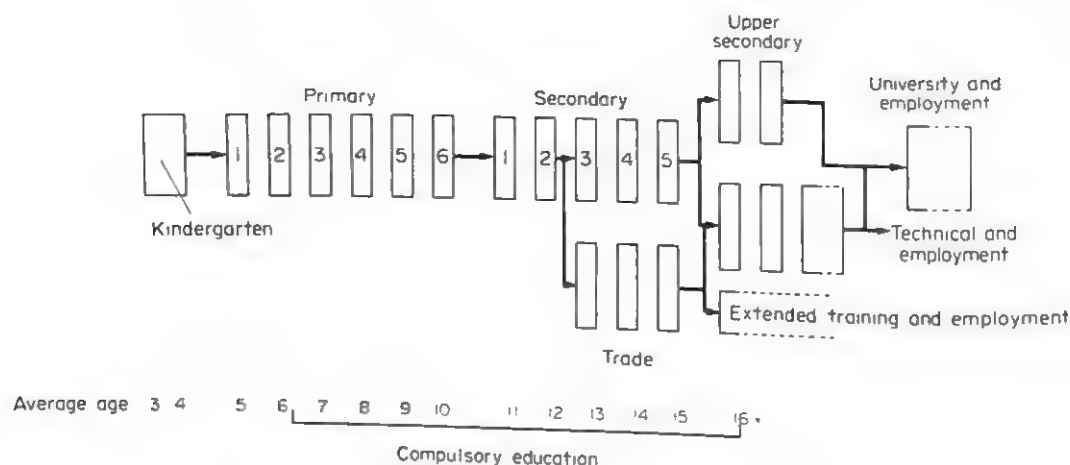


Figure 1
Structure of the educational system

- (d) technical: (i) trade schools for pupils of secondary-school age (14 schools with 3,796 students), offering craft-level courses, (ii) technical institutes for post-secondary-school students (three institutes with 1,703 full-time and part-time students), offering technician-level courses, (iii) specialized schools for electronics, secretarial studies, arts, and music and including the Art and Design Centre and the Nautical School;
- (e) extended training (postsecondary specialized technical training with periods of on-the-job training);
- (f) special education for pupils with physical, mental, or social handicaps;
- (g) evening courses in a variety of subjects; and
- (h) the International School of English, which runs summer courses in English language for foreign students.

Other ministries offer educational provisions through the schools for nursing, agriculture, catering and hotel management, and building construction, as well as the Manoel Theatre Academy of Dramatic Arts. Some 83 private schools offer a parallel system and cater for 4,074 nursery, 9,071 primary, and 7,019 secondary-school pupils.

The University of Malta offers undergraduate and postgraduate courses in the faculties of education, engineering and architecture, dental surgery, law, management studies, and medicine and surgery. In addition, most faculties run diploma-level courses and contribute to the extension studies programme of the university. In 1981, some 1,200 students, or 3.2 percent of the 18-25 age-group population were enrolled at the university.

Preprimary, primary, and secondary schooling are provided through conventional methods, while state postsecondary and university education are offered in

pupil-worker and student-worker schemes respectively. These schemes aim to acquaint students with the world of work, to relate academic work to practical situations on the job, to enable all students (regardless of their financial resources) to undertake further studies through salaried sponsorship, and to provide workers with the opportunity to return to post-secondary studies without losing their employment. The scheme was launched in mid-1978, and as yet it is too early to assess its full contribution to the Maltese educational system.

Nonformal education is catered for by both government and nongovernment bodies. Government departments, parastatal bodies, church organizations, professional bodies, trade unions, business concerns, political parties, cultural clubs, philanthropic associations, and foreign embassies offer professional or semi-professional courses in their respective fields of interest. Courses offered under the auspices of these organizations vary in nature, duration, and level of academic attainment. Evidence indicates that the number of such courses and the attendance at them are on the increase.

4. Finance

The total expenditure on education has been on the increase since the Second World War. In 1950 the total expenditure on education was £569,755 from a total budget of £23 million which included war-damage-reconstruction funds. In 1981, M£13 million, or 9.2 percent of the budget, was devoted to education. In recent years, capital expenditure has been greatly reduced with the completion of the school-building programme and government's use of ex-British-services schools and equipment.

The student per capita expenditure has also been constantly on the increase. For example, in 1950, £8 per annum was spent on each secondary-school student and

£10 on each primary-school pupil. In 1982, per capita expenditure was estimated at M£125 at primary school, M£246 at secondary school, M£220 at trade school, and M£420 at the technical-institute level.

5. Curriculum Development and Teaching Methodology

The Department of Education regulates curriculum development through the services of education officers responsible for the different subject areas. Curricula for the different specific subjects are disseminated from the department and are adopted on a nationwide basis. Adherence to the official curriculum and the monitoring of standards are effected through a system of nationally based examinations for every subject at each level from the final year of primary school to the upper-secondary school.

In the past, textbooks and modules, as well as curriculum innovations themselves, were generally imported from abroad, but in recent years advances have been made in the local production of source material, and books in Maltese are now available in most subjects. Teaching methods are basically traditional and didactic or instruction-based, experimentation with new methods being mostly a matter of individual initiative and an incipient venture by the Faculty of Education. The main problems faced in curriculum development and improved teaching methods stem mainly from the centralization and heavy bureaucratization of the educational system in general, both qualities which, of their nature, discourage innovation. Furthermore, experimental teaching methods are handicapped by an overemphasis on examination, encouraging archaic learning and teaching environments. The Faculty of Education in conjunction with the Ministry of Education runs inservice training programmes aimed at updating teacher mastery of content and pedagogy.

6. Examinations, Promotions, and Certification

The overriding principle of pupil assessment is that of continuous assessment carried out through the cumulative record-card system which details the grades for the subjects learnt at school as well as observations on the personality and social developments of students. The keeping of records at primary level is the responsibility of the head of school, while at secondary-school level records are kept by guidance and counselling personnel.

The local education authorities operate a system of centralized annual examinations. Except for the first two years of primary school, annual examinations are standardized. They are set and conducted nationally by the Test Construction Unit of the Department of Education. A school-leaving certificate is issued to students at the end of the final year of compulsory schooling. Many students obtain certification at Ordinary (O')

and/or Advanced (A') level through the matriculation examinations of the University of Malta and British General Certificate of Education (GCE) boards, the City and Guilds, and the Royal Society of Arts.

Entrance to upper-secondary schools requires six passes at O' level, while the minimum university entry requirements are good grades in three A'-level and four O'-level GCE examinations or equivalent qualifications.

7. Teacher Education

The Faculty of Education at the University of Malta caters for all teacher education requirements. The faculty is the product of several developments in teacher education since the formal establishment of two teacher-training colleges in 1945. The early training colleges were mainly concerned with the provision of trained personnel for the rapidly expanding educational system, first at primary level (1950-60) and later at secondary level (1970-80); the present aim of the faculty is to train teachers according to a coordinated system, enabling them to teach effectively at both levels. The faculty is greatly concerned with curriculum innovation, and the development of indigenous teaching materials and pedagogy relevant to local needs. It runs courses leading to a Bachelor of Education, inservice courses, and programmes in the teaching of English as a foreign language.

Teachers in state schools, who must hold a teacher's certificate or a Bachelor of Education degree, are employed on a permanent-establishment basis; recruitment for school administrative posts is made from the teaching ranks while that for general administration is made from the civil service.

8. Educational Research

Since the educational system in Malta is centralized, the essential research that keeps policy makers and the administration supplied with information, as regards fluctuations in numbers of pupils and teachers, changes in the provision of schools, and other educational amenities, is channelled through the education officers and coordinated by the senior education official responsible for planning. The research carried out by the Department of Education is essentially of a quantitative nature but research into curriculum development is also carried out.

Academic research is mainly the responsibility of the university with pedagogic and related research regarded as the domain of the Faculty of Education. This research involves such aspects as item and error analysis of national examination results, the effects of socio-economic factors on school performance, areas of educational psychology, the Maltese teaching profession, and curriculum development in the various subjects taught at primary and secondary levels. The faculty carries out research in conjunction with other foreign institutions working on areas of common interest.

production in a nation where even growing food is a new skill for many of the indigenous ethnic groups and (b) transforming the society while preventing the creation of a new elite of the intelligentsia. To reduce social-class differences, it is national policy to alternate periods of study with periods of work. After elementary school, students enter the work force, perhaps resuming education at a later date. Even students at the university level spend a month or two a year in the countryside, sharing in food production.

1. Structure of the Educational System

The educational system consists of primary, secondary, and university levels, with a subsidiary nonformal program designed to reduce illiteracy.

Elementary school lasts for four years. There are two examinations, the *carta de ensino* (lower elementary certificate), taken at the end of the third year, and the *carta de ensino primário de segundo grau* (elementary certificate), at the end of the fourth year.

There are three types of secondary school: lyceum, technical, and agricultural/vocational. The lyceum has a seven-year program and is divided into three cycles of two, three, and two years. In the first and second cycles, general education is taught. The curriculum is adapted in the third cycle to prepare for university. To enter a lyceum a student must be at least 10 years old, have a *carta de ensino primário de segundo grau*, and have passed an entrance examination. Students receive a *carta do curso geral dos liceus* (certificate of general education) upon passing an examination at the end of the second cycle and a *carta do curso complementar liceus* (certificate of secondary education) at the end of the third cycle.

Technical education is taught at the secondary level in industrial, commercial, and technical schools. The entrance requirements are four years of elementary education and an entrance examination. The duration of technical secondary education varies from two to five years.

Prior to independence a variety of private as well as state-operated training institutes provided agricultural, industrial, and commercial training. These vocational institutes have now been nationalized and the Ministry of Education is in the process of reorganizing them in line with the national development program.

The nation maintains one higher learning institution, the Eduardo Mondlane University, which enrolled 804 students in 1979. The new university curriculum stresses Mozambican history, geography, and culture in contrast to the European focus of colonial times.

By 1979, the primary-school enrollment of 1,494,729 was double the enrollment of 1974. By 1979, nearly half of the pupils were girls, marking a significant change from the pre-independence sex composition of the enrollment, when girls made up only a small minority of the school population. In colonial times girls had been doubly excluded from education, first by Portu-

guese policy and second by parents placing higher value on their daughters' bride price and household labor than on girls' becoming educated.

The secondary-school enrollment of 105,263 in 1979 was five times that of 1974.

Although the Portuguese have left, the language of instruction in the schools continues to be Portuguese, apparently because none of the local Bantu dialects are spoken widely enough to warrant adopting one as the instructional medium, attempting to produce teaching materials in that tongue, and training all teachers to use it fluently.

The nation sponsors 7,000 adult literacy programs, which by 1977 had enrolled more than 450,000 students over age 15. In many cases, the teachers have been 11- and 12-year-olds, who learned to read and write at school. Standardized textbooks and teachers' manuals have been published, and classes have been held in village centers, at hospitals, and in stores, facilities similar to those emergency sites in which regular schooling has been conducted. The adult reading and writing campaign by 1980 had increased the literacy rate to over 27 percent as compared to the pre-independence figure of 15 percent. As a method of publishing news for the general populace, the government displays large billboards with brief explanations in Portuguese and much use of cartoons to illustrate news events and government announcements.

2. Curricula

In addition to basic reading, writing, arithmetic, social studies, and practical science, the schools' curricula include a substantial amount of health education as part of the government effort at modernization. Four medical centers train medical assistants in one- and two-year programs.

To prevent the loss of local cultures and to bridge the gap from illiteracy to literacy, cultural circles have been developed to carry on the village oral tradition. Local history and culture are shared through drama and art. Artifacts are displayed in local cultural houses, with illustrations being used to tell stories as a first step toward written expression. Plays are performed in village centers and in schools.

Agricultural training is conducted both in schools and on farming sites. Learning to grow crops has been one of the primary emphases since, during colonial times, agricultural production was in the hands of the colonialists. Following independence, agriculturalists and educators discovered that they had to discontinue reliance on mechanized farming until people could be trained to repair and maintain the machinery. One successful approach in agricultural training has been that of identifying local techniques of farming that are particularly successful, then centering educational programs around them, with students sent to work on farms utilizing such methods.

3. Educational Personnel

During colonial times, educational personnel were mainly foreigners, and so when the Portuguese left after 1975 and the new government sought to expand schooling the nation was faced with a great shortage of teachers. To fill the need, the Ministry of Education established regional training centers where pupils with at least six years of primary schooling were given a six-month teacher-training course. New teachers increased from 850 in 1976 to 1,500 in 1978. The 9,000 teachers already in the schools were given a six-week seminar course to train them in Mozambican history, geography, and culture and to alter old methods of teaching that reflected a colonialist attitude toward education. Greater democratic participation in the schools was stressed.

One way in which teachers have been able to serve the large numbers of students has been that of each teacher instructing one group in the morning and another in the afternoon, with teachers using the evening hours to upgrade their own instructional skills.

4. Future Concerns

Only since 1980 has Mozambique invited Western investment. Most of the education effort and monies since that date have gone toward health and medical education, adult literacy campaigns, and agricultural training so as to maintain the cities while the country seeks to survive as a free nation. A seven-year plan of curriculum reform and the improvement of teacher training has been outlined by the Ministry of Education with the help of experts from the Netherlands, Cuba, and the German Democratic Republic, with some financial aid provided by Sweden.

A continuing effort is planned for saving the local cultures through encouraging the oral tradition and including study of local culture in the classroom. Even if the medium of instruction continues to be Portuguese, progress is needed in aiding pupils in their transition from the spoken local language to speaking, reading, and writing Portuguese. To implement such a transition, teachers need to know both the local language of the area where they teach and Portuguese, and instructional material is needed in all languages, at least for the lower primary grades. Furthermore, if the curriculum is to

contain courses in modern technology, teachers will require special training in such technology.

Problems of instructional language are particularly acute in urban centers, in which people of diverse ethnic backgrounds collect. The ethnic clusters of Mozambique are tribal in nature, and kinship still plays an important role for those who migrate to the city. Kinship ties remain close in the city, and local dialects continue to be used in daily discourse. This means that curriculum planning and teaching in urban centers are more complex than in the countryside.

The matter of urban-rural mobility also affects the structure and sequencing of the curriculum. In Mozambique, people do not give up traditional land rights when they migrate to the city. As a consequence, there is much mobility back and forth between city and country, which influences the planning of personnel training courses.

During the first half-decade or so of independence, education in Mozambique operated under emergency conditions, often utilizing makeshift school facilities, hurriedly assembled curricula, and the short-term upgrading of teachers. What is now needed is the systematic planning of facilities, courses of study, instructional materials, and teacher preparation so that schooling can proceed from a firmer foundation.

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Nepal

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The Kingdom of Nepal can be divided into three parallel topographical regions with a total area of 145,504 square kilometres (56,180 square miles): the low-lying Terai adjoining India, the central hills, and the high Himalayas bordering China. The estimated (1982) population

of 15 million is increasing on average at 2.62 percent per year, in spite of government efforts to decelerate growth. Per capita income is less than US\$140 per year. Five-year development plans begun in 1956 have provided increased opportunities for education as well as

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Mauritania

P. Sonko-Godwin

The Islamic Republic of Mauritania, on the northwest coast of Africa, is bounded on the north by Algeria, on the east by Mali, on the south by Mali and Senegal, and on the west by the Atlantic Ocean and Western Sahara. The country covers 1,030,691 square kilometers (397,950 square miles). The northern two-thirds of Mauritania is a desert of shifting sand dunes that receive from 0 to 10.16 cm of rain annually. The southern border is formed by the nation's only river, the Senegal, which courses through a region that receives an average of 15.24 cm of rain a year. On the whole, the country is very hot and dry by day and cold by night, except near the coast where sea breezes moderate the temperature.

In such a climate, the country is sparsely settled, with a total population estimated at 1.65 million in 1981 and an annual growth rate of 1.8 percent. Nearly 90 percent of the people are located in the southern region. Of the total population, almost 70 percent are nomads engaged in cattle raising.

These climatic and population-distribution conditions have significantly influenced the nation's system of education. Most schooling facilities are concentrated in the south, with the nomadic nature of much of the populace posing problems in providing for a normal school setting for children whose families are often on the move.

The educational system is affected as well by the ethnic and language diversity of the inhabitants. About 80 percent of the population consists of Moors who speak Arabic or Hassaniya. The remaining 20 percent is made up of such tribal groups as the Fulani, Tukulor, Soninkes, Wolof, and Bambara, who are located mainly in the south along the Senegal River and who are accustomed to speaking their own languages at home and the French language in school. These language differences have caused problems for educators when the government has sought to adopt Arabic as the official medium of instruction in all schools, a proposal stiffly resisted by the minorities in the south. The ethnic problem is not compounded by a religious problem, since virtually the entire population is Moslem (Curran and Schrock 1972).

The economy of the country depends on agriculture [about 25 percent of the gross domestic product (GDP) derives from dates, millet, sorghum, and rice, animal husbandry, fishing, and mining]. Agriculture is located

chiefly in the south, with the nomadic Moors in the north herding cattle, sheep, and camels. Serious droughts in the mid-1970s damaged both farming and herding activities and caused widescale famine. Fishing and mining (high-grade iron and copper) contribute significantly to the economy. Since gaining independence in 1960 from France, which had ruled the territory as part of its French West Africa colony, Mauritania's leaders have desired to achieve greater self-sufficiency in the mining industry, whose financial backing and supervisory and technical positions have been mainly in the hands of foreigners. Thus, one of the nation's educational goals is to train more indigenous people to take over the managerial and technical jobs in mining.

In the latter 1970s and early 1980s, frequent changes of government occurred, with the reins of power passed from one military leader to another. These shifts in political direction have somewhat retarded educational development, causing uneasiness on the part of educational personnel regarding changes in the direction of educational efforts that may arise with each new political leader.

1. Historical Background

During the days of French colonialism, Western schooling in the French language was generally rejected by the Moorish population but welcomed by the Negro minorities in the south. As a consequence, graduates of Western-style schools gained prestige and economic benefits which served to encourage certain Moorish parents also to enter their children in the colonial schools.

The French introduced two types of school facilities which continue to exist today—permanent school buildings in settled regions and tent schools that followed the nomadic tribes on their travels. However, during colonial times, education of a Western variety was not widespread, and the nation since independence has experienced only very modest success in bringing education to the entire populace. By 1977, nearly 87 percent of the population were still illiterate, with the illiteracy rate higher in rural regions (88.5 percent) than in urban areas (63.1 percent) (UNESCO 1981).

2. Size and Structure of the Educational System

While Mauritania's school system in recent years has recorded significant progress in raising enrollments at both primary and secondary levels, the ability of educators to achieve their goal of universal education has been hampered by a series of persistent problems, including difficulties of reaching the nomadic peoples, of recruiting students from families which have no tradition of formal education, of providing enough qualified teachers, and of combating the continual opposition to secular education on the part of the traditional Islamic teachers, the *Marabout*.

In terms of structure, the school system consists of a six-year primary sequence, a four-year junior-secondary or intermediate sequence, and a three- or four-year senior-secondary sequence. Tertiary education within the nation is still in its formative stages, so that students generally have had to go abroad for their advanced training.

When independence was granted in 1960, there were only 7,500 students in primary schools and around 1,000 in secondary schools. By 1975, both primary and secondary enrollments had increased more than 550 percent (to 50,465 primary and 6,571 secondary pupils). By 1982 there were 112,000 pupils, or 28 percent of the primary-school age group enrolled in approximately 700 primary schools. At the secondary level 26,000 pupils were enrolled in the 30 secondary schools, colleges, and teacher-training colleges. The structure of the system, in more detail, is as follows.

Official reports contain no mention of preschool education, although there are apparently some private kindergarten and nursery-school facilities available in urban areas.

A six-year primary education is compulsory by law. However, because of shortages in teaching personnel and school facilities, as well as the problem of reaching all of the potential pupils, the provision for compulsory schooling has not as yet been achieved in practice. Upon completing the primary grades at age 12, pupils take the CEPE examination (*certificat d'études primaires élémentaires*) to earn a primary-school certificate and become eligible for admission to secondary education.

There are two types of junior-secondary schools, the *lycée* at Nouakchott Nouadhibou and the College of Rosso, which prepare students over a period of four years to sit for the BEPC (*Brevet d'étude du premier cycle*) examination or the *brevet arabe* examination, which lead to a junior-secondary certificate necessary for admission to senior-secondary school.

The upper cycle of secondary education also consists of two types of institution. The first offers a three-year program enabling students to earn the *baccalauréat* needed for entering a university. The second offers a four-year program, with certificates awarded students who pass the final competitive examination.

In addition, Mauritania maintains a series of voca-

tional training institutions that prepare nurses, primary-school teachers, veterinary officers, electricians, carpenters, and other skilled personnel in two- to four-year programs that students enter after earning either a primary- or junior-secondary certificate.

The start of a system of tertiary education began in 1971 with the establishment of the *Ecole Normale Supérieure*. This initial effort was followed by plans for a polytechnic university for training engineers and technicians and an Institute of Higher Islamic Studies.

With the assistance of foreign governments and international organizations, Mauritania continues to send students abroad for advanced study. In 1978, there were over 800 students studying in such countries as France, Senegal, Morocco, Turkey, the Soviet Union, Saudi Arabia, Ivory Coast, and Canada (UNESCO 1981).

In addition to the forgoing educational provisions, night-school programs are conducted for working adults.

3. Administration and Finance

All levels of education in Mauritania are the responsibility of the Ministry of National Education. The ministry's assignment is to ensure that the schools offer programs well adapted to the characteristics of the population and to the country's socioeconomic development plans. More specifically, the ministry is expected to further the country's relations with the Arab world, particularly to foster the use of Arabic as the official language of instruction, and to promote the Islamic religion. As one step toward unifying the educational system, the traditional Moslem schools are being gradually integrated into the modern schooling structure. The Islamic teachers are also encouraged to enter formal teacher-training programs, although many resist such efforts.

In recent years, the largest portion of the educational budget has been spent on secondary schooling. For example, in 1977, 48.8 percent of the budget went to secondary education, 26.5 to primary schooling, 14.1 for tertiary education, and the remainder for other costs (UNESCO 1981). Between 1970 and 1977, the amount of money spent on education increased by more than 300 percent.

4. Curriculum Development

The modern school system, including the curriculum, is founded on the French system introduced during colonial times. To adjust the inherited structure more adequately to the characteristics of present-day Mauritania, educational authorities have been altering the curricula so as to revive the teaching of indigenous traditions and to meet the economic personnel needs of the economy. Thus, both Arab and national history,

natural sciences, geography, and the Arabic, English, and French languages dominate studies in secondary schools. The offerings of vocational institutions reflect the needs of the nation's mining and agricultural endeavors.

In response to the resistance of the population of the south to the compulsory use of Arabic as the medium of instruction, the government has permitted both Arabic and French to be used as instructional languages in most schools.

In summary, Mauritania since gaining independence has made notable progress toward improving educational opportunity within the country. However, because such a small portion of the population was educated in colonial times, the nation began its development at a low level and still has far to go to achieve

universal literacy among the adult population and universal schooling for the young.

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Mauritius

S. Munboddh

Mauritius, an island in the Indian Ocean, has a democratic system of government based on the British pattern and a system of education which has also developed from the British pattern. The first school was started around 1767 and today more than 95 percent of the primary-school-age population is at school. It is an island of volcanic origin, lying at latitude 20° South and longitude 57° East. Its area is 1,864 square kilometres (720 square miles).

It was visited by the Arabs and Portuguese during the sixteenth century but first settled for about a century by the Dutch (1598–1710). In the early eighteenth century, the French and forced labour from Madagascar and Africa settled on the island. In the early nineteenth century, the French used the country as a base to fight the British in the Indian Ocean and even in India. In 1810, the British conquered the island and made it a British colony. With the abolition of slavery in 1834, the emancipated labour left their former masters, and labour, mainly from India, was brought in to cultivate the fields. The country became independent in 1968. It is a member of the Commonwealth.

By 1978, the country had a network of 1,770 kilometres (1,100 miles) of tarred road and so communication between schools, and between schools and the Ministry of Education, is easy. School supplies are easily transported and the relatively good public-transport system allows for teachers to travel to and from school daily. Tap water and electricity are available almost all over the island. National radio and television broadcasts cover the entire country.

In June, 1985, the estimated population of Mauritius was 985,210 and the population density was 528 per square kilometre. In 1940, it had a population of about 414,000. After the eradication of malaria in the 1950s, the annual population growth rate rose to 3.1 percent.

This declined to 1.94 percent between 1962 and 1972 and further decreased to 1.44 percent between 1972 and 1983. This reduction in birth rate has made the provision of education to all citizens less difficult.

Mauritius has very few natural resources. Its main economic activity is the production of sugar for export, mostly to the European Economic Community. Its situation in the cyclonic belt renders such an economy very fragile. In the 1970s, government established an export-processing zone in its effort to create more employment. In 1985, the estimated gross national product was Rs12,550 million and the work force in large establishments numbered 203,467, only two-thirds of the total work force. A breakdown of the work force into the various sectors of the economy is given in Table 1. The manufacturing sector is developing very fast.

Historically, the country has placed a great premium on education, which has resulted in high social mobility in the population. In October, 1985, unemployment stood at 62,905, with 61.9 percent having only between one and six years of education and 13.9 percent having at least the Cambridge School Certificate.

1. Goals of the Educational System

The constitution of Mauritius respects the language and culture of one and all. The different origins of its people make it not only a multiracial society, but also multilingual and multicultural. The official language is English.

The goals of the educational system as set out in the two-year (1984–1986) development plan are:

- (a) to adapt the schools to the evolving socio-economic and cultural system of the country

Table 1
Employment in large establishments by sector and by sex, March 1985

Sector	No. employed		
	Male	Female	Total
Agriculture, hunting, forestry and fishing	36,033	12,259	48,292
Mining and quarrying	78	86	164
Manufacturing	20,959	35,094	56,053
Electricity, gas, and water	3,791	123	3,914
Construction	4,586	107	4,693
Wholesale, retail trade, restaurants, and hotels	7,318	1,923	9,241
Transport, storage, and communications	7,839	569	8,408
Financing, insurance, real estate, and business services	3,594	1,392	4,986
Community, social, and personal services	50,246	12,745	62,991
Activities not specified elsewhere	4,686	39	4,725
Total	139,130	64,337	203,467

- (b) to promote the extension of preprimary schooling and provide equal opportunities to all school-going children
- (c) to explore all means for bringing the educational system into conformity with employment opportunities
- (d) to ensure qualitative and quantitative improvement at all levels and make the system more cost-effective.

2. General Structure and Size of the Educational Effort

2.1 Formal Education

Responsibility for education is vested in the Ministry of Education, Arts and Culture. Education is free at the primary and secondary levels up to the age of 20 years but not compulsory. Students attending university pay a nominal fee. There are nearly 1,400 fee-paying pre-primary schools providing education to some 20,000 children in the age group 3 to 5 years old.

The country has a 6 + 5 + 2 education system (see Fig. 1).

Primary education lasts six years for most of the pupils and a seventh year for those who are unsuccessful at the Certificate of Primary Education (CPE) examinations. Those pupils who are not successful after a second attempt at the CPE can move to prevocational schools which provide an education with a practical bias. Those who pass the CPE are admitted to secondary schools where, after five years, they will take the Cambridge School Certificate examinations. Pupils obtaining a minimum of four credits at the School Certificate Examination and who are below 19 years of age on December

31 of the previous year qualify for the two-year Higher School Certificate course.

Enrolment at the primary level, which amounted to 117,591 in 1961, reached 135,012 in the 270 schools in 1985 after peaking at 151,614 in 1972. More than 95 percent of the primary-school-age population attend

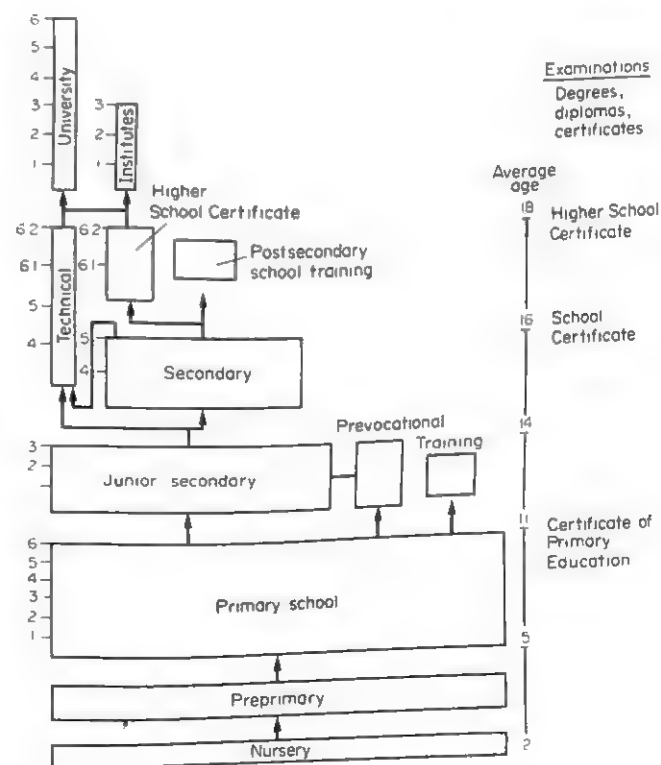


Figure 1
Structure of the educational system

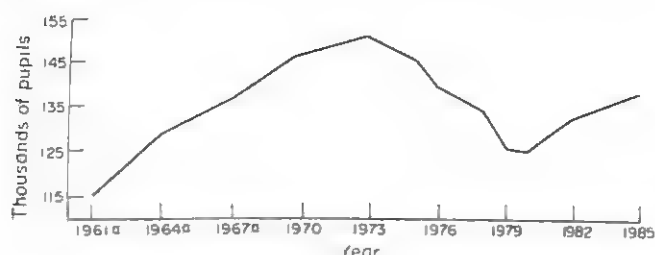


Figure 2
Primary-school enrolment 1961–85

a 1961, 1964, and 1967 are estimates

school. Dropout at the primary level is almost negligible as more than 90 percent of those who enter primary school complete the cycle.

Enrolment at the secondary level which was 24,851 in 1961, increased to 70,551 in the 125 schools in 1985. There is now a seat at school for every pupil who qualifies for it. Figures 2 and 3 present enrolment data from 1961 to 1985.

There are two types of higher education in Mauritius: technical/vocational and teacher training. The University of Mauritius provides technical/vocational training leading to bachelor degrees in administration, agriculture, or technology. Teacher training is offered at the Mauritius Institute of Education. In addition to the Mauritius Institute of Education there are a number of other vocational and technical training schools which provide courses below the level provided by the university.

2.2 Nonformal Education

With the country moving towards industrialization, non-formal education is playing a more important role in its development and many different courses are run outside school hours.

Adult education classes are run by the government, municipalities, and private organizations, covering science and technical subjects, cookery, dressmaking,

homecraft, shorthand, typewriting, etc. These classes aim at providing an opportunity to those who could not benefit from the formal education provided and to those who wish to carry on self-learning.

The thirst for more education among the people and the efforts made by the different communities to preserve their cultural identities led to the further development of the nonformal educational sector. Classes in Oriental languages subsidized by the government are held in representative cultural institutions, halls, and clubs and are attended by children of the different ethnic groups outside school hours. Many private institutions, as well as the Mauritius College of the Air, run pre-vocational and vocational courses in the technical and secretarial fields for students and workers.

3. Administrative and Supervisory Structure

Government enacts laws pertaining to preprimary and primary, secondary, and tertiary education. Within the context of these laws, the Ministry of Education, Arts and Culture determines the policy and requirements for the different levels of education.

The permanent secretary, the responsible officer in the ministry, is the adviser to the minister. The Ministry of Education, Arts and Culture administers government and government-aided schools.

At the preprimary level, all schools, except for a few pilot schools, are private. At the primary level, only about 1 percent of the enrolment attend private fee-paying schools; the rest are in government and government-aided schools. Education in private schools at the secondary level was made non-fee-paying as from 1977 and the Private Secondary Schools Authority, a parastatal body, is responsible for the provision, financing, and supervision of education in those schools.

4. Finance

Education in Mauritius is financed principally by the government. In 1968, when the country became independent, the budget devoted to education was Rs30,987,218 which represented 10.9 percent of all government spending. That percentage varied little until 1976, when about 92 percent of secondary-school pupils attended private fee-paying, aided schools. In 1977, education was made non-fee-paying at all levels and the educational budget increased to 17 percent of government expenditure. In 1985 it stood at 12.2 percent (Financial Report 1977–78, Budget Estimate 1984–85).

The existence of different types of school, mostly at the secondary level, combined with the desire of parents to see their children in a good school, encourages competition throughout the system. Nearly all parents have recourse to private tutors for their children and this considerably inflates the private expenses devoted to education.

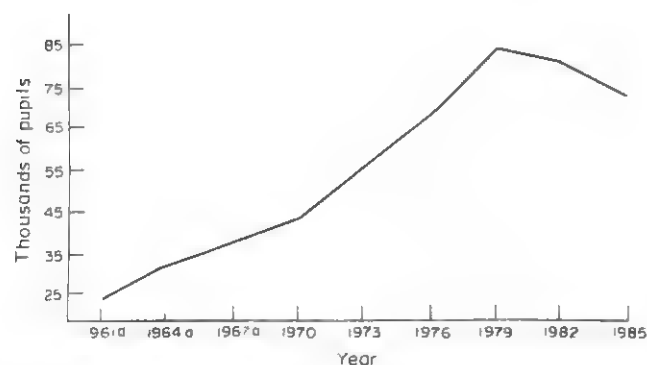


Figure 3
Secondary-school enrolment 1961–85

a 1961, 1964, and 1967 are estimates

5. Supplying Personnel

Teachers recruited by the government for the primary level follow two-year training courses at the Mauritius Institute of Education. Formerly such courses were run by the Teachers' Training College founded in 1902.

Prior to the setting-up of the Mauritius Institute of Education (MIE) in 1973, teachers for the secondary level had to go abroad for their training and only a small percentage of teachers were qualified and trained. Teachers employed at the secondary level are now increasingly following certificate, diploma, and post-graduate courses run by the institute. Consequently, the quality of the teaching force is improving.

In 1985, the pupil/teacher ratio at the primary and secondary levels were 21:1 and 20:1 respectively. This indicates that the job market for teachers has reached saturation point and consequently teaching jobs are becoming scarce.

6. Curriculum Development and Teaching Methodology

The Ministry of Education, Arts and Culture has overall responsibility for curriculum implementation in all the schools. The Mauritius Institute of Education collaborates with the ministry to plan and develop new curricula for the primary and secondary levels. A curriculum for the lower-secondary level which was developed in the late 1970s and the primary-school curriculum are under review.

The primary schools have a uniform curriculum. In addition to learning English, French, mathematics, geography, environmental studies, needlework, and handicrafts, the children have an opportunity to study one of the following languages: Hindi, Tamil, Telegu, Marathi, Urdu, Arabic, or Mandarin. The teaching of languages occupies a large share of the timetable and a suggestion for a revised language policy has been made by the *Commission of Enquiry into Preprimary and Primary Education* (1978). Pupils at the lower level of secondary schools study a common core of subjects consisting of English, French, mathematics, integrated science, and social studies and choose from the following optional subjects: agriculture, industrial arts, home economics, arts and crafts, practical commerce, music and dance, and one additional language. At the upper-secondary level, the curriculum varies with the facilities available at the schools and is biased towards the teaching of nonpractical subjects. It is also conditioned by the requirements of the University of Cambridge Local Examinations Syndicate. Teaching materials for the implementation of the curriculum are developed by the Mauritius Institute of Education and are prescribed by the Ministry of Education, Arts and Culture. In the absence of appropriate materials, teachers have recourse to materials, mostly books and question papers, produced by individual local authors to help them in their teaching.

7. Examinations, Promotions, and Certification

Pupils sit for national and international examinations at the end of each cycle. At the primary level, promotion from one grade to the next is automatic until standard VI, where the pupils sit for the Certificate of Primary Education. Promotion throughout the system has been described in Sect. 2.1 above.

The system of recruitment and promotion in the government and private sectors is based on certification, with much importance attached to the international certificates, awarded mainly by the University of Cambridge Local Examination Syndicate and the University of London. As a result, the international examinations dominate the learning process and make difficult any change in the school curriculum.

8. Major Problems

Quantitative expansion at both the primary and secondary levels is slowing down as a place now exists at school for any pupil qualifying for it. However, the efficiency of the system as well as the quality of education provided require more attention in the 1980s and 1990s. The educational needs of the country have to be redetermined for the purpose of reviewing the school curriculum from the viewpoint of the educational and economic needs of both students and the country.

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Mexico

J. A. Pescador

The Mexican Republic, whose official name is *Estados Unidos Mexicanos* (Mexican United States), is one of the Latin American countries. Its geographic position contributes to its importance as a physical, political, and cultural link between North America, Central and Insular America, and South America.

Mexico is demarcated by its large economic regions: the northwest, north, northeast, center west, center south, east, Pacific south, and the Yucatan Peninsula.

In some areas, there is a strong demographic density with a large concentration of industrial plants and service facilities (e.g., the Valley of Mexico, Monterrey, and Guadalajara), while other strictly rural zones struggle against backwardness and "margination" and do not enjoy the benefits of the development reached by the population elsewhere. The services, including education, are either nonexistent or insufficient. In the 1970s, both the federal and the state governments carried out work (irrigation schemes, communication routes, industrial projects, tourist centers, etc.) to re-order and achieve a better balance in the distribution of population, consequently decentralizing services such as education.

According to Article 40 of the Mexican United States Political Constitution, the government is "constituted as a representative, democratic and federal Republic, composed of free sovereign States regarding its internal regime, but united in a federation that is established according to fundamental principles of law."

The states are autonomous and are authorized to make their own regulations, though the latter may not contravene what is stated in federal law. The federal powers are permitted to perform only those functions which are expressly named by the Constitution, and hence the states can undertake whatever is not reserved for the federation. Each state has its own constitution which establishes the structure of public power. However, each of the 31 states must adopt a republican, representative, and popular government, basing its territorial division and its political and administrative organization on the ideal of the free municipality (*municipio libre*).

In 1900, the Mexican Republic had 13.6 million inhabitants. In 1930, better health and security services began to be provided, economic growth became constant, and living conditions were improved. The death rate was 25.6 per 1,000 inhabitants in 1930 and dropped to 7.5 per 1,000 in 1980. The birth rate was constantly high (49 percent) from 1930 to 1970, and the population growth rate increased from 1.1 percent in 1930 to 3.3 percent in 1980.

In 1950, the percentage of children under 15 years of age was 41.5, and in 1980 that figure had increased to 45.0. Some 72 percent of the total population are under 30 years of age.

The economically active population represents approximately one-third of the total, though there was a slight decrease during the 1970s.

According to the 1980 census, 36.5 percent of the economically active population worked in the primary sector (agriculture, livestock, and fishing), 25.1 percent in industry, and the rest in the tertiary sector. It was estimated that in 1982 the labor force numbered approximately 20 million people.

1. Goals of Education

All education is provided in accordance with the basic principles set down in Article 3 of the Constitution, which specifies that education shall be:

- (a) Integral: "it shall strive to achieve the harmonious development of all human beings' capabilities."
- (b) Nationalist: "... it shall encourage love for one's country . . . —without hostility or favoritism—it will be geared toward the understanding of our problems, the profitable use of our resources, the defense of our political independence, an assurance of our economic independence, and the continuity and growth of culture."
- (c) Humanist: "[It shall uphold] . . . an awareness of international solidarity in a context of independence and justice . . . strengthening in students not only an appreciation for individual dignity and the family unit but also a conviction . . . to uphold the ideals of brotherhood and equal right for all men, regardless of race, creed, affiliation, sex, or identity."
- (d) Democratic: "Thereby democracy is considered not only as a legal structure and political system but also as a way of life based on the constant economic, social, and cultural improvement of the people."
- (e) Secular: "In accordance with Article 24 of the Constitution, which guarantees religious freedom, the criterion guiding education shall be completely detached from all religious doctrines."
- (f) Objective: "... the criterion guiding education, based on the results of scientific progress, shall fight against ignorance and its consequences, servitude, fanaticism, and prejudices."
- (g) Compulsory: "Primary education shall be compulsory."
- (h) Free: "All education provided by the State shall be free."

Table 1
Enrollments by level 1960-83^a

	1960	1970	1975	1980	1983
Preschool	230,164	400,138	537,090	1,071,619	1,875,423
Primary	4,884,988	9,248,190	11,461,415	14,666,257	15,300,000
Secondary	239,287	1,102,217	1,898,053	3,033,856	3,754,830
Preparatory	106,200	278,456	606,796	1,057,744	2,000,000
Higher education	28,100	271,275	542,292	811,281	1,113,241
Total	5,488,739	11,300,276	15,045,646	20,640,757	24,043,494

a Source: Dirección General de Programación 1980-81, Mexico

2. Structure and Size of the Educational System

The educational system is divided into five levels: pre-school, primary, secondary, preparatory, and university. Education is provided through both the formal and nonformal systems. The former requires regular classroom attendance and is divided into grades and levels. The latter entails open education, which is offered through services that are flexible in terms of grades and levels.

Preschool is noncompulsory instruction prior to primary schooling and is aimed at 5-year-olds. Primary education is compulsory and provides six grades of schooling beginning at age 6. Middle school consists of a basic cycle (also called secondary school) followed by a higher cycle called preparatory school. Secondary education consists of general and technical secondary schools, both lasting three years and including propaedeutic and terminal technological training. Students attending this level are generally between the ages of 13 and 15. Preparatory education consists of courses lasting three years and is attended by students between 15 and 18 years of age. Here too there are two types of school: propaedeutic as a prerequisite for entering into university and terminal to train middle-level technicians. Higher education studies generally last for four to five years and are usually offered to persons from 19 to 24 years of age. Higher education also includes normal schools for primary-school-teacher

training and superior normal schools preparing teachers for secondary schools. Table 1 presents enrollment trends from 1960 to 1983 for the different levels of education.

Education in Mexico is provided by the federal government, states, municipalities, and private agencies. Enrollments in these sectors have evolved between 1970-71 and 1980-81 as shown in Table 2.

3. Administration

With the exception of the universities, most of which are autonomous, formal education is under the jurisdiction of the Ministry of Education, which has 31 delegations, one for each local state. The ministry is responsible for establishing national curricula and methods of teaching. Primary and secondary education is uniform throughout the country.

The Ministry of Education is divided into 6 under-secretariats and 44 principal departments headed by general directors. In accordance with the policy of decentralization started in 1978, the ministry has gradually empowered the 31 general delegations to perform extensive functions involving technical support and management of human, financial, and material resources. Since 1981, the planning, programming, and budgeting systems for schools have been the responsibility of each state.

Several institutions play a fundamental role in

Table 2
Percentage of students in federal, state, municipal, and private schools 1970-71 and 1980-81^a

	1970-71			1980-81		
	Federal	State and municipal	Private	Federal	State and municipal	Private
Preschool	62	31	7	68	22	10
Primary	64	28	8	72	23	5
Secondary	50	21	29	64	16	20
Preparatory	42	28	30	24	53	23
Higher education	49	39	12	15	70	15

a Source: Dirección General de Programación 1972, 1982 *Informe de labores*. Secretaría de Educación Pública

accomplishing the objectives and targets established by the federal government: The National Institute for Adult Education (INEA) was created by presidential decree in 1981 and is concerned with the organization and development of literacy and basic-education services for persons over 15 years of age; the National Council of Educational Encouragement (CONAFE) assists, technically and economically, the development of priority programs in the educational sector; the Federal Program of School Building (CAPFCE) was created in 1944 in order to improve the quality and efficiency of school buildings. In the period 1975 to 1981, it built the same number of educational spaces (laboratories, classrooms, workshops, etc.) as in the entire previous history of the country; the National Commission of Free Textbooks (CONALITEG) began in 1959 to operate a free textbook program for kindergartens and elementary education. In 1971, it produced 55 million books and in 1981, 80 million; the National Institute of Fine Arts (INBA) was founded in 1946 to promote, encourage, and investigate the fine arts. It is engaged in the organization and development of arts education; and the National Pedagogical University (UPN) is a higher education public institution created in 1978 for teacher training and educational research.

4. Finance

The budget allocated to education represents the largest share of the federal government's budget and increases continually. However, Mexico still suffers from insufficient financial resources to meet the total demand for education of the highest quality. Approximately 45 percent of the budget allocated to education goes to basic education.

Some 70 percent of total education expenditures are met by the federal government. In 1982, total expenses incurred by the federal government came to 306,500 million pesos, which was equivalent to 68.3 percent of the funds spent on education. The next largest share is borne by the state governments—nearly 50,000 million pesos. These proportions remained practically the same throughout the 1970s. Private sources have, however, gradually declined from 8.5 to 5.1 percent during the same period.

In 1960, the total expenditure on education represented 1.7 percent of the gross domestic product (GDP). By 1977, it was 4.5 percent, and it was estimated that by the end of 1982 this percentage would rise to 5.4 percent. In order to reach the goal of 8 percent of GDP by 1988, higher real growth rates will be needed.

5. Educational Research

Most research studies have been undertaken within the public higher education sector, mainly in the federal district; 74 percent of research projects have been concerned with operation and supervision services and 7 percent with school children (the latter are descriptive

Table 3

Enrollment distribution by level in 1980 and forecast for the year 2000 (%)

Level	1980	2000
Preschool	5.7	12.7
Elementary	69.5	37.9
Secondary	14.9	19.5
Preparatory	5.0	17.9
Higher education (including normal schools and graduate programs)	4.9	12.0

in nature); 5 percent involved experiments of innovations and 1 percent consisted of participatory research. Some 900 persons are engaged in educational research, although not all of them full-time. Investment in education research is 1 per 1,000 of total educational expenditure.

A general view of Mexican educational research suggests that, in spite of an increase at the end of the 1970s in the number of studies undertaken, educational research is far from meeting the country's needs in this field and requires a bigger share of the education budget. There is a lack of coordination between institutions engaged in educational research. The number of researchers is insufficient and most of them lack specialized training. And, finally, it would seem desirable to establish much closer links between educational research and teaching practice.

6. Major Problems

Table 3 presents the expected percentage distribution of enrollments in the year 2000 and juxtaposes these with 1980. The absolute expected increase is presented in Table 4. The annual population-growth rate is expected to be 1.5 percent in the year 2000.

Preschool enrollment will, it is estimated, nearly treble; in 1990, it will reach all 5-year-olds and the

Table 4

Enrollment forecast for formal education by level^a

Level	1980-81	2000-01
Preschool	1,201,970	4,152,345
Elementary	14,628,394	12,422,097
Secondary	3,124,559	6,410,859
Preparatory	1,066,892	5,874,403
Higher education ^a	1,027,312	3,926,812
Total	21,049,127	32,786,516

^a Includes normal schools and graduate programs. ^b Source: Dirección General de Programación 1982 *Proyección de la matrícula año 2000*. Secretaría de Educación Pública, Mexico City

introduction of two preschool grades, enrolling all the 4-year age groups, is then planned.

Enrollment in elementary education is expected to start decreasing in 1984 and, more abruptly, during the last years of the century, due to reduced population growth. The elementary level, which accounted for approximately 70 percent of the enrollment in 1980, will represent only 37 percent in the year 2000. On the other hand, enrollment in secondary education will double (from 3 to 6 million). Major changes will take place at the preparatory school level, not only because its population will increase fivefold (from 1.1 million to almost 6 million students) but also because its enrollment will be divided between the propaedeutic baccalaureate and terminal professional education in a very different way: 2.3 million will attend baccalaureate studies and 3.5 million will receive vocational education.

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Mongolia

D. Chapman

The Mongolian People's Republic occupies 1.5 million square kilometres (580,000 square miles) of territory in Central Asia and shares frontiers with the People's Republic of China and the Soviet Union. Almost one-quarter of the population of 1,641,000 (1979) inhabits the capital, Ulan Bator, and another quarter is settled in three industrial centres, but the majority leads a seminomadic life, tending their own livestock and the cooperatives' herds in the undulating terrain of the grasslands. Far-flung rural settlements (*somons*) provide the herdsman and their families with welfare and educational facilities. Some 75 percent of the population comprises Khalkha Mongols and the remainder consists of some 15 ethnic minorities, including Buryats and Kazakhs. The national language is Mongolian.

Under the leadership of the Mongolian People's Revolutionary [communist] Party (MPRP), the country is currently set on a course of industrialization, whereby the traditionally predominant primary sector of the economy (cattle rearing) is destined to cede its place to heavy industry. Mongolia's vast mineral resources are being exploited with massive assistance from the Soviet Union and fellow members of the Council for Mutual Economic Assistance (COMECON), with whom Mongolia conducts over 90 percent of its external trade.

When Mongolia followed Soviet Russia into revolution in 1921, it embarked upon a course of political and social development modelled on the Soviet pattern,

whose vicissitudes as well as triumphs it subsequently shared.

Noteworthy achievements of the immediate post-revolutionary era were renewed population increase after years of continuous depletion (the result of disease and the requirement of a celibate priesthood in the Lamaist religion) and the reduction of illiteracy by means of mass campaigns. Some 60 percent of the population in the early 1980s were under 30 years of age. Estimates of the literacy rate before 1921 are contradictory—the eminent scholar, Rinchen, put it at 35 percent (as compared with the 3-4 percent of official histories)—but progress to date has been undeniably impressive, for illiteracy has virtually been eradicated.

Under the Buddhist theocracy of traditional Mongolia, monastery schools provided their novices with an education in the scriptures and cult of Lamaism, but there were no secular schools until 1921. The new regime created a Ministry of Education in 1921 and confirmed a statute permitting only state-run primary schools. The first partial middle school, with boarding accommodation, was established in 1923, and the Soviet model supplied the principles for the organization of coeducational schools and for curricula. Stringent measures were taken to quell opposition from the priesthood so that by the end of the 1930s secular, atheist education had become truly established.

Immense difficulties remained, however: the short-

ages of teachers, equipment, buildings, and funds and the problems of catering for a widely dispersed, nomadic population and instilling positive attitudes towards education. Four-year primary education was declared compulsory in 1940 but did not become universal until the late 1950s, when the growth of the school network accelerated.

The first and second five-year plans (1948–57) envisaged a primary school in each *somon* and at least one partial middle school in every district centre, with boarding provision. Seven-year compulsory schooling (8–15 years) was the target of the three-year plan, which also announced the policy of linking school with industry that has been the watchword of all subsequent plans, culminating in the modern general polytechnical school and vocational, technical, and specialized schools. To this same end, evening and seasonal schools for workers were set up.

Since the founding of the State University in 1942, higher education has been greatly expanded by the addition of pedagogical and technical institutes. At all times, Soviet patronage and example have been essential in the choice of curriculum and methodology and the furnishing of laboratories, workshops, and libraries.

1. Goals of the Educational System

Sanjaasuren and Jernosek (1981) describe the main aim of Mongolian schools as “all-round, harmonious personal development, with active participation in constructive labour”, while the guiding principles set out in 1975 recommend the provision of scientific-theoretical knowledge and practical vocational training, the promulgation of a communist world view, the encouragement of collectivism, and close collaboration between school, family, and society. Thus, utility and doctrinal orthodoxy are paramount.

2. Structure and Size of the Educational Effort

Figure 1 presents the system of full-time education. Preschool education is growing steadily and kindergartens are being built not only with state funding but also by voluntary subscription. But a great need remains to be met, for only 18 percent of 3- to 7-year-olds attended kindergarten in 1978, reflecting the fact that Mongolia has an excessive number of school-children in proportion to its workforce and gross national product.

Since 1972, the period of compulsory schooling has been eight years, but in 1978 about 20 percent of the country was not yet served by a partial middle school. However, the country's stated goal of having every child no more than 9 kilometres (or less than an hour on horseback) away from the nearest school is being brought closer. Meanwhile, 70 percent of partial middle schools have boarding accommodation for children whose homes are too far away for a daily journey to school to be feasible. Primary schooling in remote country districts is conducted in the herding collective itself before the children transfer to middle schools in *somons* or towns.

As more nomads have become settled, the number of primary schools has diminished: 102 were closed in rural areas during the 1970s, and the number of pupils attending such schools has been halved nationwide to 19,200. Over the same period, the number of combined elementary/middle schools nearly doubled: 131 new partial middle schools were opened, bringing the total to 356, serving 213,800 pupils, and complete middle schools increased from 51 to 84 with 115,600 students. The mean total of pupils in Ulan Bator's schools is 1,000, twice the national average, and the overall teacher/pupil ratio is 1:28.

A continuing cause for concern is the problem of

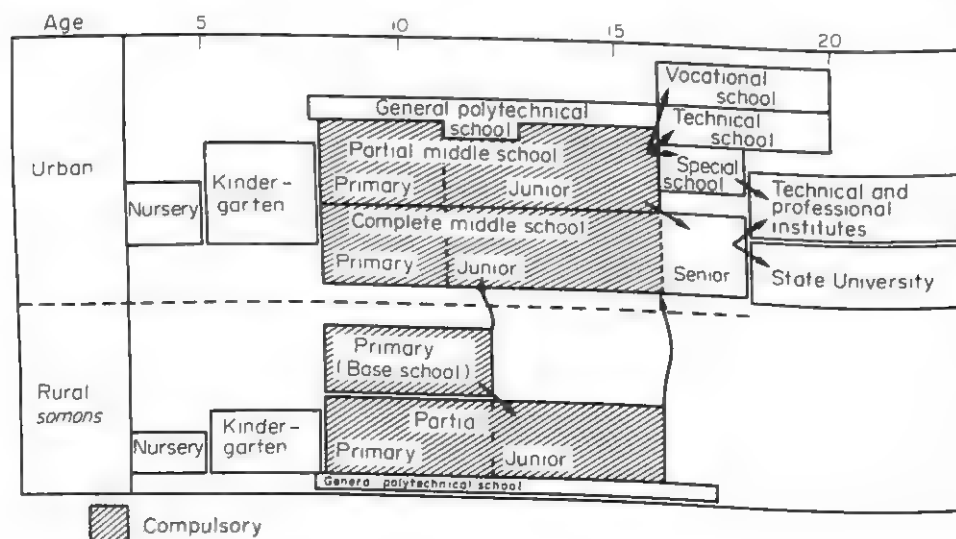


Figure 1

Full-time education in urban areas and rural *somons* during the seventh five-year plan (1981–85)

dropouts. Almost a quarter of the children in some provinces failed to complete the fourth year, according to a 1967 report, which attributed this to poor study habits and the resultant loss of promotion. Educators have recently been bidden to seek a solution in an improved methodology.

According to figures for 1978, 51 percent of graduates from partial middle school entered senior classes and 41 percent entered vocational or specialized schools. One in five general-school leavers continued their education at university level.

Sodnom (1981) states that 9,000 students attend day, evening, and correspondence departments at the State University, which produces over 1,000 graduates annually. Institutions of higher learning in the Soviet Union admit a further 4,000 Mongolians a year. Professional institutes in the capital include higher schools of economics, medicine, agriculture, pedagogy, and Russian. One-third of university students are women.

Seasonal and evening courses provide vocational and political training for many working men and women. On-the-job instruction is provided at many project sites by Soviet experts.

3. Administration and Finance

The capital and each of the 18 provinces has its own committee of education. All primary and general polytechnical schools, all teacher-training institutes, and some vocational schools are under the jurisdiction of the Ministry of Education. Other vocational and specialized schools are organized by the relevant ministries, including those of agriculture and industry. The Committee of Sciences and Higher Education administers the State University, while the Sukhe Bator Party School comes under the auspices of the MPRP. Research work is directed by the Academy of Sciences.

About one-seventh of Mongolia's annual expenditure is budgeted for education, and provincial educational authorities are responsible for drafting revenue and expenditure budgets, which must be approved by local financial officials. It is claimed that education is entirely free and that the state pays 43,000 tugriks (US\$1 = 4 tugriks) for each person passing through every stage, from kindergarten to university. Some 11,000 tugriks are spent on every pupil of the 10-year middle schools, while a 4-5 year course of higher education costs the state between 10,000 and 27,000 tugriks per student.

4. Teachers and Teaching Methods

Qualified teachers were exceedingly scarce in Mongolia until 1934, when a training programme was launched. The Soviet-staffed training college's first intake consisted of students with only elementary schooling, but from 1938 it began to receive middle-school graduates. The Evening Institute for Teacher Certification was established in 1940, followed shortly afterwards by a

university department of pedagogy (since 1961, the Pedagogical Institute).

The total number of trained teachers increased five times between 1934 and 1961, and had trebled again by 1978, when it included four times as many teachers with higher education. In the early 1980s, 97 percent of teachers had received higher or specialized secondary education. These resources have been channelled mainly into the expanding general-school network: in 1978, each partial middle school had, on average, 23 teachers (compared with 16 in 1961) and a complete middle school had 49 (42 in 1961). In institutions of higher education, 20 percent of professors and instructors hold advanced degrees.

Rote learning and copying were the chief means of instruction in the first two postrevolutionary decades, but delegates to the first teachers' congress (1934) criticized them sharply and pointed to Soviet practice in seeking a more effective methodology. Henceforth, lessons were to contain a variety of activities, including presentation, practice, and review phases. However, their approach has never become particularly child centred and Mongolian schools are, to this day, above all disciplined institutions. Recent reports have called for more attention to the individual child's interests and abilities. When a new middle school curriculum was adopted in 1972, teachers were encouraged to alter their methods in order to "stimulate the participants to compare and juxtapose pieces of information, to draw inferences and make generalizations".

The majority of textbooks used in higher education are translated from Russian but the Academy of Sciences' annual list of new Mongolian publications usually includes many textbooks. Teaching aids and equipment are also produced by special "methodological centres" set up by the Ministry of Education and coordinated with similar Soviet agencies. In view of the transition in the general educational schools in the early 1980s from a four-year primary, four-year junior, and two-year senior programme to a three plus five plus two arrangement, the content of textbooks and lessons is being reassessed. A certain amount of independent learning is being fostered by the latest textbooks, which are expected to present the most up-to-date science and technology.

5. Curricula and Examinations

In recognition of Mongolia's needs as an industrial-agrarian society, the 1961 Education Act ushered in reforms to strengthen the ties of general schools with practical life and production. A uniform curriculum for urban and rural schools appeared in 1965, providing much more work experience and a varied polytechnical framework, with industrial and agricultural training in urban and rural schools respectively.

Under the fifth five-year plan (1971-75), steps were taken to correct the persistent discrepancy between the

requirements of a technological society and the school curriculum. In the new programme for middle schools, arts subjects account for 44 percent of class hours, science and mathematics for 39 percent, music, art, and physical education for 11.5 percent, and practical work experience for 5.5 percent. In the first three classes, pupils study for 24 hours a week, rising to 34 in the final four years. The complete middle school offers more advanced work in the same subjects. Students in vocational and technical schools train to become livestock farmers, veterinary surgeons, or medical assistants, for instance.

The general bias of the university is towards science and technical subjects; arts subjects—history, Mongolian studies, and Russian—are in the minority. Dialectical materialism and Party history are required subjects for all students.

To enter an institution of higher education, students sit examinations in four subjects studied at middle school. At university, lectures, laboratory practicals, and seminars are supplemented with placements in appropriate industries. The Soviet-style examination system grades students on a 5-point scale and failure

entails loss of promotion. However, the failure rate at the university is very low. Examinations in most subjects are conducted orally.

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Morocco

A. Lahjomri

"Country of the Far West"—"*el Maghreb el Aqsa*", as it is known—Morocco enjoys a favored geographical position in the extreme northwest of Africa. It has a population of more than 20 million of which over 50 percent is under 20 years old. The annual population growth rate is about 3.1 percent. The important task facing decision makers in Morocco is to satisfy the basic needs of this population: food, health, housing, work, and education.

Since independence (Morocco was a French and Spanish Protectorate from 1912 to 1956), successive governments have undertaken the development of a coherent educational policy and the introduction of training facilities to provide young people with sufficient instruction for them to become development agents. These have been urgent and high-priority tasks.

On the eve of colonization, Moroccan society was characterized by economic and cultural stagnation which served to facilitate foreign penetration. The educational network was ossifying and excluded disciplines such as mathematics, medicine, and physics, restricting education to the religious training of the citizen. That is why the educational and the sacred were often seen as corresponding to a model of society which rejected the notion of productive training and organized the transmission of theoretical knowledge as a constituent moral function of the personality of the citizen.

1. Educational Background

The *m'sid*, or Koran school, was the basic institution in the precolonial educational network. At this "primary" level, the goal was to master the text of the Koran and to memorize it in its entirety; learning the Koran was based on recitation rather than on teaching methods using mainly reading and writing. The *Zaouia*, in rural areas, and the *Medersa*, in urban areas, were institutions corresponding to the secondary level; their aims, as well as the improvement of reading and writing, were to provide an initiation into the basic works of Arabic grammar and Moslem law and an introduction to literature and to the subtleties of the Arabic language—essential requirements for entry to the higher level which, in Morocco, was represented by the prestigious *Quarawiyyin* and its annexes. At this "university" level, the student would increase and deepen his knowledge in the fields of language, literature, and grammar, under masters acknowledged for generations as authorities in their respective disciplines.

Current educational literature in Morocco contents itself with pointing out the dogmatism, formalism, conservatism, and sterility of this educational network on the eve of colonization. However, even if its "fundamental lack of realism" (Laroui 1977) was evident, compared with the "modernity" brought by the colo-

nizing industrial and market-based civilization, its internal structure nevertheless showed an originality which made, for example, the *Quarawiyyin* university comparable to an American college. This originality could be seen: (a) in the material organization of education since the place of learning was open both to the student (in the restricted and classical sense of the term) and also to the ordinary citizen who wished to deepen his knowledge of theology without being hindered by strict and paralyzing administrative procedures; (b) in its independence from the administrative and political authorities; (c) in educational terms, for real importance was attached to the rhythm of learning and rather than conditions, such as age, duration, and periods of training, being imposed, emphasis was placed on the freedom of choice of the student and on continuing individual efforts to acquire knowledge; and (d) in that the notions of backwardness, wastage, failures, and maladjustment to school, so important in an educational network subject to the modern demands of production, were not considerations in this system of education.

Colonization could not fail to bring about an ideological interest in the essential role that education could play in achieving political and economic domination. Thus, first for the young Europeans whose families had settled in Morocco, and later for a privileged category of young Moroccans, the protectorate set up an educational system in all respects identical to the "metropolitan" model, although care was taken to call it "Franco-Arab," "Franco-Moroccan," or "Franco-Berber," according to the fluctuations of colonial ideology. This conceptual, institutional, pedagogical, and architectural transfer was to condition the internal dynamism of the Moroccan educational system for many years, even after independence.

Thus, two competitive educational networks existed, one exogenous, the other endogenous, built on different foundations and with opposing aims, just like the bicephalous division of the essentially urban geography which led to the emergence of the modern European town on the outskirts of the traditional Moroccan city, or *medina*. The attempt to introduce bureaucratic rigidity to a system which had never known it, to codify and standardize traditional pedagogy and to subject it to the rules of the imported model increased the tension born of this face-to-face clash between two teaching systems, one aiming to perpetuate colonialism, the other to resist a political and cultural offensive which threatened the very existence of the Moroccan nation.

The goal of the colonial system was the formation not so much of an elite as of a nonassimilated but docile social class, confined to junior posts in the administration, commerce, industry, or agriculture and evolving in the cultural sphere of the colonial power, a wedge between the protecting power and the colonized society.

The structure of the educational network was the same as that which operated in France: primary school, secondary school, and higher education. Because of this, French became the language of learning, of "mo-

Table 1

French and Moroccan graduates on the eve of independence, 1956^a

Professions	Moroccans	French
Doctors	19	875
Pharmacists	6	330
Veterinary surgeons		98
Engineers	15	2,500
Higher levels of administration	165	6,400
Centre for Scientific Study	11	94
Number passing <i>baccalauréat</i> 1912-55	640	8,200

^a Source: *Journal of INSEA* (National Institute of Statistics and Applied Economics), Nos. 12-94 Series F

dercity," while the devalued Arabic language was sometimes excluded, in certain rural areas in favor of the Berber language. The majority of students did not go beyond the elementary school-leaving certificate. Those few who went on to study at a university did so thanks to the social position of their families or to the patronage of individual colonial educators. Table 1 shows the comparative numbers of French and Moroccan graduates on the eve of independence.

Independent Morocco inherited a complex educational landscape, whose constituent features may be summed up as follows:

- continued existence of the traditional teaching system;
- transfer and implantation of schools according to the European model;
- nationalist resistance by the setting up of a network of "free schools";
- competition between these three systems, with the preeminence of the utilitarian and secular colonial system as the essential path to social advancement;
- application of the quota system to the native school-age population in order to keep the existing social structure in a state of immobility favorable to perpetuating the protectorate;
- aim of assimilation of the rural areas with the urban; and
- elitism by rigorous control of access to schools.

The complexity of this heritage determined the choices and objectives adopted by Morocco to deal with the imperative need for knowledge at the end of the protectorate.

The doctrine drawn up by the royal commission on educational reform (August 25, 1957) and by the commission on education and culture (April 1959), rests on

four premises, on which there is national consensus and which still form the cornerstone of all educational policy in Morocco:

- unification of the different educational systems in existence following independence, in order to fuse them into a single and unifying system, including the training of the administrators needed by the country;
- making education generally available by applying the principle of the right to education as compared with the elitist and inegalitarian policy of colonialization;
- "Arabization" of teaching in order to revalue the national language by making Arabic the medium of instruction; and
- "Moroccanization" of the machinery of administration, the economy, and education through a policy of training personnel so as to give responsibility to nationals.

The divergences which have occurred in educational policy since 1957 have never called this basic consensus into question. Rather, they have expressed different approaches to achieving these aims.

2. Structure and Size of the Educational System

To an objective observer, the process of unification ended with the establishment of a system which in some ways certainly grew out of the colonial system, but which, by taking in 95 percent of those receiving education, profoundly changed educational problems in Morocco. The educational landscape is still complex and does not yet show the degree of homogeneity that the setting up of a "national school" should produce.

The various educational systems which operated under the protectorate were succeeded by another sort of complexity: the state education system is dominant but there is also a traditional network, a survival of the precolonial system, private "foreign" (basically French) education, and, finally, a new private network. Quality, then, becomes the factor underlying competition. While state education spreads more and more and takes in an increasing number of children, the foreign network, which is restricted both in size and geographically, is reserved for a privileged minority.

The process of unification will finally emerge from conflict. The continued existence of "French schools" and the anarchic expansion of the commercial private sector continue to hinder the emergence of a true national school.

However, as the state educational system is the largest in numerical terms, it is the system which will now be discussed. It awaits a voluntarist policy determined to go beyond the present formal unification and introduce strict control over the development of the commercial sector and the phasing out of the foreign network. The

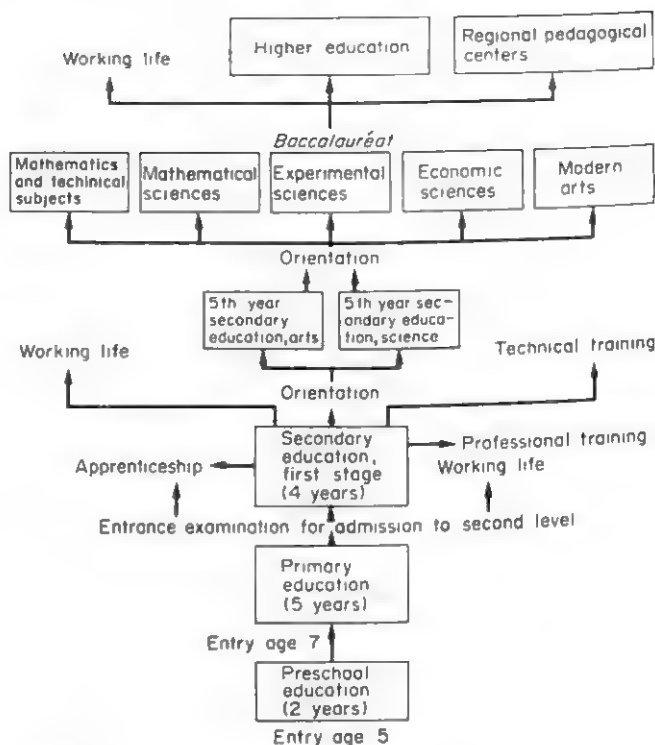


Figure 1
Structure of the state system of education

structure of the state system of education is shown in Fig. 1.

From 1957 to 1981, there was a remarkable increase in school attendance, as shown in Table 2. The state has tried constantly to increase enrollment. Nevertheless, in 1981 the enrollment of all children in school was still not achieved, and demographic pressures make the attainment of universal education difficult. The disparity between attendance in urban and rural areas and the unequal treatment of boys and girls accentuate the obstacles to providing education for all.

The attendance rate of children aged 7 years reached 65 percent in 1980-81, not including those enrolled in the private sector. It is, however, difficult to give accurate figures for the increase in attendance as the sources of information are contradictory. It is also difficult to predict future progress towards the goal of enrolling all children. However, it seems that the continuous efforts of the state, both in budgetary and organizational terms, should lead to the attainment of this goal by around 1990-91.

Immediately after independence, the decision to

Table 2
Enrollment by level 1957-82

Level	1957	1977	1981-82
Primary	292,000	1,667,773	2,331,000
Secondary	28,000	524,555	826,500
Higher	2,500	55,858	144,000

make Arabic the language of education seemed logical. In reality, the large numbers requiring schooling at that time, and the lack of sufficient national personnel to undertake the teaching of scientific subjects in Arabic meant that the educational system evolved towards bilingualism, which introduced a division that has continued to operate in that Arabic is reserved for arts subjects, and French for scientific and technical fields. This division results in "linguistic vacillation" affecting students at every level, to the detriment of their studies. This situation can only be improved by means of a long-term linguistic policy which, by revaluing Arabic in all sections of everyday life, would make it operational within education.

Until this policy, which has already been adopted, bears fruit, this linguistic vacillation will continue to disguise the dominance of French which is seen as the language of social advancement and success. Besides, the linguistic problem goes beyond the framework of the educational system, and the debate on the national language and the language of education reflects a lack of national consensus on a functional definition of the concept of Arabization.

Immediately after independence, a major goal was to train national personnel to take responsibility for the machinery of administration, the economy, and education. Moroccanization has been largely achieved in the administration and economy, but various problems have occurred in education. One of the main objectives of the department responsible for education is to end foreign, especially French, cultural assistance by intensive training of teaching personnel who are essential if curricula are really to become Arabic based.

3. Teachers and Teacher Training

The policy of training teaching personnel has evolved in stages, following the gradual increase in numbers at the different levels of the educational cycle. In the first place, efforts were concentrated on training primary-school teachers, then teachers for the first stage of secondary education, and finally for the second stage of secondary education.

Since 1956, the reorganization and extension of the regional primary teacher training schools inherited from colonial days has enabled the goal of Moroccanization to be achieved in primary schools. These establishments, which in 1980 became centers for the training of primary teachers, having achieved Moroccanization, are now

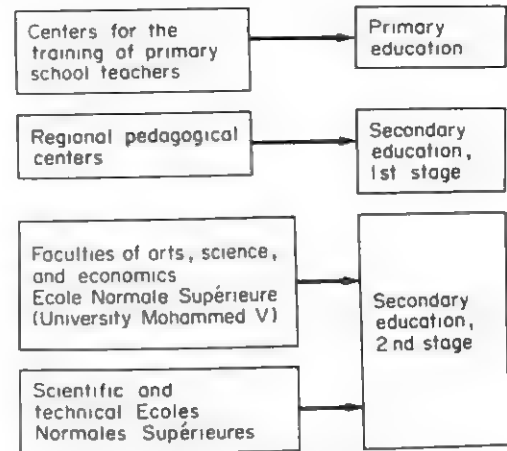


Figure 2
Structure of the teacher-training system

concerned with improving the quality of primary teaching and coping with the increased intake of children. From 1956 to 1970 primary-school teachers received one year of training. In 1971 the duration of the training course increased to two years. A total of 43,263 teachers were trained between 1956 and 1979.

In October 1970, regional pedagogical centers were created to train personnel to replace foreign teachers at the first secondary stage. Since 1979, these centers, of which there were 14 in 1980, have contributed to the effective Moroccanization of the first secondary stage. The degree of Moroccanization for each stage of education is shown in Table 3.

Attention was then turned to a third phase, that of organizing the training of teaching personnel to bring about Moroccanization of the second secondary stage. From 1978, the department responsible for education has been counting, for the achievement of this goal, on the output of the various faculties of arts, science, and economics of the *Ecole Normale Supérieure* (ENS) of the University Mohammed V and of the six new establishments for training teachers of scientific and technical subjects which, since that year, have been attracting increasing numbers of science students destined for the teaching profession.

Gradually, since independence, a system of teacher training has been set up parallel to the state educational system in order to free education from external aid and to channel its numerical growth. The structure of the teacher-training system is outlined in Fig. 2.

Table 3
Degree of Moroccanization 1970-77 (%)

Level	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77
State primary	100	100	100	100	100	100	100
State secondary	47.82	52.08	56.62	63.17	63.76	63.23	64.66
University	49.67	56.74	58.72	58.50	62.74	62.26	60.60

Table 4
Funding by school level 1973, 1977^a

Level	1973		1977	
	Millions of dirhams	%	Millions of dirhams	%
Primary	403	41.85	524	37.3
Secondary	470	48.55	734	52.4
Higher	97	10.55	145	10.3
Total	970	100	1,403	100

^a Source: Rachidi 1981

4. Finance

The formal unification of the educational system has been achieved, efforts to make Arabic the language of education are progressing, and Moroccanization is well under way, but the major problem for the years to come will be making education generally available. Increasing enrollment requires an enormous financial effort and also a restructuring of the machinery of education. According to a publication of the Ministry of National Education: "Total expenditure on education and training carried out by all the organizing authorities would represent nearly 30 percent of the general state budget." For the Ministry of Education alone, from 1979 to 1980, this share was 18 percent. Tables 4 and 5 give some idea of the evolution of this expenditure.

Will the increase in state expenditure during this decade succeed in speeding up the rate of increase in enrollment so as to make schooling available to all? It seems rather that "if the birth rate remains at its present level . . . the population still to be reached will be 4.9 percent of pupils in 1985, that is to say, three and a half times the number attending school in 1975" (Rachidi 1981).

However, this gap between increase in expenditure and that of the number of children for whom education has still to be provided is not the only obstacle to mass education. Weaknesses and structural limitations were identified by a national commission in 1980 and will require a remodeling of the educational system. The need for updating the machinery of education in relation to economic and social development is agreed both by public opinion and by the educational authorities.

5. Priorities for Remodeling the Educational System

The following are the priorities in educational reform.

- (a) The internal functioning of the educational machine often leads to problems of viability because the frequency of grade-repeating and the high dropout and failure rates increase the cost of training, upset the rhythm of school attendance, and disturb the teaching activity of schools. Action in this field is one of the highest priorities.
- (b) In the opinion of all those involved in education, one of the basic reasons for grade-repeating, failures, and dropouts is to be found in the pre-dominance of French as the medium of instruction to the detriment of the national language. An overall linguistic reform would help to make the educational structure more effective.
- (c) A redefinition and rebalancing of training tracks would allow vocations at present inadequately served to expand in ways other than through lengthy arts or scientific training. As Table 6 shows, one of the present limitations is the elitism which favors training of long duration to the detriment of technical training of medium or short duration and of vocational training, both of which are essential for the economic and social development of the country.
- (d) Another priority for this remodeling is to try and rectify the imbalance between the education of

Table 5
Expenditure on education as percentage of GDP 1969-77^a

	1969	1970	1971	1972	Year 1973	1974	1975	1976	1977
Expenditure on education	5.76	5.58	6.15	6.80	8.95	5.93	12.69	15.55	16.52

^a Source: Cherkaoui 1980

Table 6
Percentage of pupils in different tracks in upper-secondary schools 1966-67, 1979-80

Tracks	% of pupils 1966-67	% of pupils 1979-80
Arts	53.3	41.0
Science and economics	23.5	56.0
Technical	19.2	3.0

males and females and between the urban and rural areas.

- (e) Closer links between training and employment should be sought so as to achieve the gradual and harmonious integration of graduates into working life.

The sudden awareness provoked by the "days on education" (a meeting of representatives from the administration, political parties, and trade unions) in August 1980 seems to be directing future decisions towards overcoming these weaknesses and achieving a more functional relationship between education and society by adapting the educational structures to the

imperatives of developing the true wealth of Morocco and of fulfilling the needs of its young people who are impatient to learn and serve.

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Mozambique

C. T. Stege

The People's Republic of Mozambique, a former Portuguese colony, became independent on June 25, 1975, after 10 years of active insurgency against the colonizers by forces of the Front for the Liberation of Mozambique (*Frente do libertação de Moçambique*, FRELIMO).

An East African coastal country, Mozambique retains economic and political relations with its northern neighbors, Tanzania and Zambia, while endeavoring to lessen economic ties with Zimbabwe and South Africa.

Mozambique's 783,000 square kilometers (302,238 square miles) of territory is cut by five major river basins that effectively divide the country into a northern section of highlands and a southern section of fertile lowlands. The population, estimated at 10 million in 1976, is 90 percent African and 10 percent non-African. The African population can be divided into roughly 10 different cultural groups, including the Makuolomo, Makonde, Yao, Tsonga, and Shona peoples. The Makuolomo are the largest group and they have been heavily influenced by Arab cultural traditions, including the Moslem faith, due to their contact with Arab and Persian merchants. The non-African population is primarily Portuguese, although there are also large groups of Chinese, Indians, and Pakistanis.

Before 1970, most schooling was in the hands of missionaries, with a few government schools operated

for the benefit of the Portuguese colonialists. Nearly all educational personnel were European and the curriculum was heavily influenced by Portuguese history and culture. The modest amount of education for the indigenous peoples was only for the first three primary years, after which pupils had to go to Tanzania if they wished to study further. At the time of independence in 1975, the literacy rate among the indigenous population was 15 percent. In 1970, it was estimated that only 2 percent of the population had completed four years of primary education and only 0.2 percent had completed a professional course.

Following independence, the educational system was nationalized by FRELIMO, the political party in control of a highly centralized single-party state. Education is now seen as an important vehicle for social change, so that schooling is linked closely to economic development and political needs. By 1977, education was second only to defense in the size of its budget allocation, with more than 16 percent of government expenditures marked for educational purposes, an increase from 6.5 percent in 1971.

Two of the principal national development goals toward which the schools are oriented in order to achieve greater national self-sufficiency are (a) expanding people's knowledge of agricultural and industrial

financing other sectors such as agriculture, transport, communications, and hydroelectric power in a bid to raise standards of living and increase export earnings.

Approximately 80 percent of an estimated 6.4 million working population (15–55 years) depend upon agriculture, 7 percent on manufacturing, and 7 percent on clerical work, the rest being in business or government (Agriculture Projects Services Centre 1981). Agriculture accounts for over 60 percent of Nepal's gross domestic product (GDP), and 80 percent of export earnings (Baskota 1981). Tourism, including Himalayan trekking, has recently become an important source of revenue. Development projects in many sectors absorb aid finance. A slow growth of exports and rising imports have characterized foreign trade. In the fiscal year 1979–80, exports amounted to 1,140.8 million Nepalese rupees (NRS) whereas imports totalled NRS. 2,532 million (1 Nepalese rupee equals US\$0.08).

In the 1982–83 budget, development spending has been allocated NRS. 6.96 billion, an increase of 70.8 percent over the previous year, or 76 percent of the total projected spending of NRS. 9.19 billion. With increased taxation in some sectors, the government has allocated NRS. 402 million, or 4 percent, for defence, an increase of 40 percent, and NRS. 353.2 million for social services, including health and education.

The monarchical system is headed by King Birendra Bir Bikram Shah Dev, who is commander in chief of the armed forces. Nepal's modernization dates from 1951 when the century-long autocracy of the Ranas was ended by a popular revolution under the leadership of the present king's grandfather, King Tribhuvan, and consequently a parliamentary democracy was introduced. However, this was replaced after a decade by a party-less Panchayat system later, in 1980, confirmed by a referendum. The country now has a 135-member legislative body known as the Rastriya Panchayat whose elected prime minister chooses his cabinet from among its members.

1. Goals of the Educational System

The aim of primary education is to teach reading, writing, and arithmetic to Nepalese children and to inculcate habits of disciplined and hygienic living (Nepal, Ministry of Education 1971). Lower-secondary education stresses character formation, a sense of the dignity of labour, and habits of perseverance. Secondary education prepares students to enter higher education. The objective of tertiary education is to produce the personnel required for national development (Nepal, National Planning Commission 1981).

2. Structure of the Educational System

Figure 1 presents the structure of education in Nepal. Although kindergartens exist in urban areas, formal primary schooling begins for 6-year-olds in grade 1. In 1980, primary education was increased from three to

five grades although attendance is not yet compulsory. The target figure for enrolment at the end of the five-year plan in 1985 is 75 percent of the 6–10 age group. Primary-school enrolment has been significant only since 1951, the main increase being in the mid-1970s, after the introduction of the new National Education System Plan in 1971. Recent enrolment and projection figures include under-age and over-age children, possibly 35 percent of the 9–11-year-olds being still (1982) in grades 1–3 (see Fig. 2).

For economic and social reasons many parents are still reluctant to send their children to school, especially girls. Out of an enrolment in grades 1–3 of 1,067 million in 1980, only 28 percent were girls. Secondary education consists of lower secondary, grades 6–7, and secondary, grades 8–10. Enrolment has increased from less than 2,000 students in 1951 to more than 500,000 in 1980.

District-level examinations are conducted at the end of primary as well as lower-secondary education. A national test, School Leaving Certificate (SLC), is a minimum requirement for university entrance. Considerable wastage results from the examination system: of the 27,819 students who sat the School Leaving

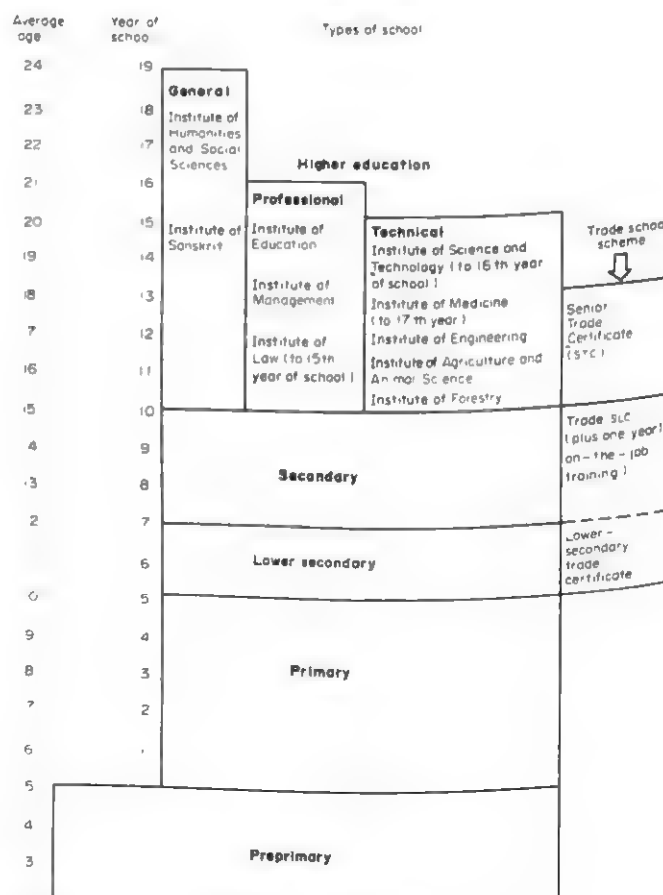


Figure 1
Structure of the educational system

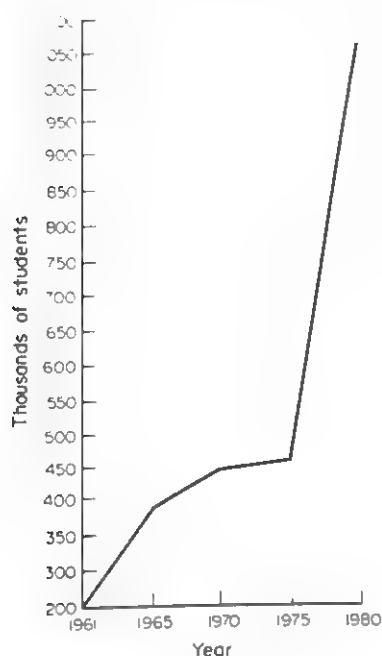


Figure 2
Primary-school enrolment 1961–80

Certificate in 1981, only 21.4 percent passed. Dropouts and repeaters reduce the internal efficiency of both primary and secondary systems. The official number of school days is 180, and absenteeism is common among students and teachers.

The one university in Nepal, Tribhuvan University, provides a two-year proficiency certificate, two-year bachelor's degrees, two-year master's degrees, and doctoral programmes in its various institutes. In addition to university campuses in various parts of the country, 36 privately run liberal arts and commercial colleges offer certificate courses accepted by the university.

The national literacy rate is 24.3 percent (1980), literacy among women being only 3.7 percent in 1971. The percentage of girls in the three levels of schooling has risen to 27.7, 22, and 18.8 percent respectively (1981). Of the total number of 26,891 higher education students (1978), girls comprised 22 percent of the total.

Under the sixth five-year plan, the Ministry of Education runs six-month functional literacy courses for adults based on agriculture, nutrition, family planning, health, and personal hygiene. Women's organizations and youth services are involved, as well as the Departments of Cottage Industry and Labour. A trade-school scheme is being launched in several parts of the kingdom for out-of-school youth (Sharma 1982).

3. Administration and Supervision

The ministry is responsible for the administration and supervision of school-level education, whereas Tribhuvan University controls higher education. The three

divisions of the ministry—general administration, educational administration, and the programme and planning section—are headed by joint secretaries. Under the ministry are 5 regional directorates and 75 district education offices to which are attached some 400 school supervisors. The schools are controlled by school management committees some of whose members are appointed by the district education officers.

4. Finance

From 1970 to 1977 expenditure on education increased from NRS. 71.5 to NRS. 280 million or from 7.35 to 9.06 percent of the national budget. In 1977, the allocation for primary, secondary, and tertiary education was 26, 21, and 34 percent respectively. By 1981, of the total education budget of NRS. 568.986 million, the three levels were allocated 29, 15, and 36 percent respectively, the unit cost for a student of higher education being NRS. 2,706 (Agrawal 1978). Private finance assists some institutes and schools. Both bilateral and multilateral aid support radio education, teacher training for women, and the production of textbooks as well as the education components of several integrated rural-development projects.

Students pay fees in secondary and tertiary institutions. Primary education is free and school textbooks are provided free in the first three grades. Most schools are built by local communities. Donations, voluntary labour, income from land, and other local sources contribute to some school incomes. Some students in higher education qualify for small stipends. Girls from disadvantaged groups qualifying to become teachers receive monthly stipends under a women's education project.

5. Supply of Personnel

By 1981, only one-third of the 29,134 primary teachers and 12,245 lower-secondary teachers and nearly three-quarters of the 4,909 secondary teachers were trained. The university employed 2,680 teachers in 1980. Shortages of science teachers are severe, especially in rural schools. The Institute of Education and other faculties of the university train teachers. Inservice courses and radio educational programmes both contribute to teacher upgrading.

6. Curriculum Development, Teaching Methods, and Research

The Curriculum, Textbook, and Supervision Development Centre devises national school curricula and prepares textbooks written by local educators. The national language, Nepali, is the medium of instruction. The teaching of English begins in grade 4. Teaching methods tend towards lecturing at all levels, partly because of a scarcity of teaching aids and partly because of examinations. Individual instruction is therefore not

commonplace. Few studies of children's cognitive abilities have so far been undertaken. Educational research has been pioneered by the Centre for Educational Research, Innovation, and Development (CERID) of Tribhuvan University which has made significant studies of nonformal education, parents' attitudes, and the performance of trained and untrained teachers, and has also produced many monographs and study papers. Various other research groups, such as the New Educational Research Association, are based in Kathmandu.

7. Major Problems

Nepal has still to provide basic educational opportunities for many of its young people. Large numbers of school-age children still do not attend school because of their geographical remoteness from schools or because of selective processes at secondary and tertiary levels. Facilities and rewards for teachers are meagre. Curricula at all levels do not yet match the real needs of students or the developmental requirements of the nation for trained personnel in all fields. Technical and agricultural training has increased considerably with assistance from such agencies as the World Bank, but few job opportunities exist for the increasing numbers of arts graduates from the university.

The universalization of primary education and the problems created by a high rate of illiteracy are major concerns. The education of women and girls requires special attention. Teachers in formal schooling and facilitators of nonformal courses must be recruited and

trained in larger numbers. Vocational education needs to be strengthened. Curriculum materials should be revised so that they reflect modern child-development theory and stimulate increased numbers of students to train in specialties relevant to national development.

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Netherlands

W. J. Nijhof and J. N. Streumer

The Netherlands has an area of about 42,000 square kilometers (16,216 square miles) and a population of 14.21 million (1981). It is one of the most densely populated areas in the world. Its geographic position and the nature of the soil account for the fact that commerce and shipping, as well as agriculture and cattle-breeding, have long formed the basis of the Dutch economy. The Netherlands is divided into 12 provinces. The majority of the population lives in the three western provinces: North Holland, South Holland, and Utrecht. The country is low lying and flat, a significant part consisting of a delta area of the Rivers Rhine, Maas, and Scheldt, and is bounded to the north and west by the North Sea, to the east by the Federal Republic of Germany, and to the south by Belgium. The national language is Dutch; in the northern province of Friesland, the Frisian language is also spoken.

Since 1969, the rate of population growth has decreased, and the proportion of births among Dutch nationals has reduced steadily. There was, however, an

increase in the proportion of births to nationals of one of the Mediterranean countries. The general downward trend not only affects employment in education but also the entire socioeconomic structure. The Dutch population has become multicultural to an increasing extent through the influx of migrant workers from Mediterranean countries and the decolonization policy of the Dutch government. Many of the migrants have settled in the large cities in the western part of the country, and certain social problems have resulted. It is expected that by the year 2000 the Netherlands will have about 700,000 inhabitants of foreign origin; in 1978, this statistic exceeded 403,400, of which 205,000 came from Mediterranean countries.

Whereas, in the nineteenth century, social class was based, to a large extent, on descent, in the twentieth century, a more meritocratic society has developed, with education becoming an important factor in the determination of social status.

In 1982, the proportion of the population working in

the economy was distributed according to the following major categories: agriculture and fishery (6.1 percent), industry and crafts (26.6 percent), commerce (13.9 percent), and services (22.2 percent). Employment in the services sector has risen since the 1950s while that in agriculture and fishery has decreased.

In 1953, the Social and Economic Council framed the following major socioeconomic aims for the Netherlands:

- (a) a higher national income;
- (b) an acceptable proportional incomes policy;
- (c) full employment;
- (d) reasonable price stability;
- (e) a stable balance of payments.

However, given the world economic crisis at the beginning of the 1980s, and the increased labour supply (as a result of immigration and the growing number of married women wishing to work), the number of registered unemployed rose to 17.4 percent in 1984. Unskilled workers are proportionally overrepresented among the unemployed and skilled workers are proportionally underrepresented. Persons under 25 years of age represent 45 percent of the total unemployed. To overcome the government's financial deficit, sweeping changes were proposed in 1980 to bring public expenditure closer into line with national income. Substantial cuts in education expenditure were planned for 1983, largely affecting salaries. (Of the total education budget, 82 percent is allocated to salaries.) It was proposed that the Ministry of Education and Science were to cut expenditure by 1,000 million Dutch guilders by 1986.

The Netherlands was a republic until 1813, when the Kingdom of the Netherlands, a constitutional monarchy, was proclaimed. In 1848, it became a parliamentary democracy. The Constitution of 1848, which is still in force, provides that the members of the Lower House, the provincial councils, and the municipal council be elected directly. The members of the Upper House are elected by the provincial councils. There is a multiple-party system. In 1917, the Netherlands adopted universal suffrage for men, and in 1922 for women.

Attempts to initiate political and constitutional innovations in the 1960s for the most part failed, and the trend towards more decentralization was blocked; legal protection of individuals was, however, promoted. Pacification democracy, as it functions in the Netherlands, will be subjected to stresses in the coming years because of decreasing economic growth, unemployment, social unrest, the needs of the ethnic minorities, and the problems of securing an energy supply.

1. Educational Background

In the Netherlands, the principle that parents may choose the education for their children that reflects their

own outlook on life is upheld. Whereas, in 1900, 59 percent of children were in public education and 31 percent in private education, by the 1960s, the figures had become 27 and 73 percent respectively, and in 1980, 32 and 68 percent. This change may be linked to the desegregation movement, which started in the 1960s and led to the breakdown in many fields of the denominational structure, especially among Catholics and to a lesser extent among Protestants. In education however, denominational desegregation has barely occurred.

The conflict in the Netherlands over denominational schooling gave rise to a unique educational system, in which the democratic rights of groups and individuals are in principle exceptionally well-protected. This conflict led not only to separate schools for different population groups, but also to complete quadripartition of the entire educational system into public, Catholic, Protestant, and secular schooling.

School boards are permitted the following liberties:

- (a) The freedom of foundation, that is, the freedom to found a school of any ideological or social kind. This is tied to quantitative and not to qualitative criteria.
- (b) The freedom of ideology, that is, the freedom of the competent authority of a denominational school to administer education on the basis of a self-determined principle of any ideological kind.
- (c) The freedom of structure, that is, the freedom of the competent authority to determine the content and method of education. This freedom is considerably restricted by the state, which lays down qualitative requirements.

It should be noted, furthermore, that school boards can: (a) found and close a school or school department; (b) appoint and dismiss principals, teachers, and non-teaching staff; (c) admit and remove students; (d) determine the internal organizational structure of the school; (e) determine the way in which parents are involved in school affairs; and (f) determine the form and nature of the relations between the school and related external institutions, including the support structure.

2. The Goals of the Educational System

The Dutch educational system strives for the following goals:

- (a) to do justice to the various ideologies within the Dutch population;
- (b) to promote equality of opportunity for the different social groups;
- (c) to promote cultural transmission;
- (d) to promote social mobility and integration;

- (e) to maintain and develop the prosperity and welfare of society;
- (f) to train experts and to develop expertise at different levels;
- (g) to promote democratization and emancipation;
- (h) to promote decentralization of administration and management; and
- (i) to promote cultural innovation.

3. Structure of the Educational System

3.1 Formal Education

The formal educational system (Fig. 1) comprises three levels: primary education; junior and senior vocational training and secondary general education; and vocational colleges and university education.

Parliament passed a new Primary Education Act in 1981, which became effective in 1985: nursery and primary education merged to form a new primary education system for the 4–12 age group.

There are 20 different types of special education, ranging from schools for children with learning disabilities to schools for multiple handicapped children.

Secondary general education was fully restructured by the 1968 Secondary Education Act, called the Mammoth Act. Since then, secondary general education

comprises four main types of school: preuniversity education (secondary grammar schools); junior and senior secondary schools; junior and senior vocational training and vocational colleges; and miscellaneous types of secondary education—part time or full time—such as social-training courses for young workers. The latter type of education is of a nonvocational character and is intended for young people whose period of compulsory (full-time) day-school attendance has ended prematurely.

There are also special vocational-training schemes for apprenticeships, in which apprentices receive their theoretical training in vocational training centres and their practical training in the company in which they are employed. Within the framework of the apprenticeship scheme, the primary course lasts two years and the secondary course one year.

The Compulsory Education Act (1900) was amended several times, and in 1975, a 10-year, full-time compulsory-education period was enacted, requiring that 16-year-olds receive schooling for two days a week.

In 1982, secondary education was predominantly vertically organized, on the assumption that 12-year-olds can be selected for different school types on the basis of scholastic aptitude. The selective school system has been under discussion and, at the beginning of the 1980s, studies are being undertaken about the desirability of having a three-year middle school, which will be a comprehensive school intended for all children

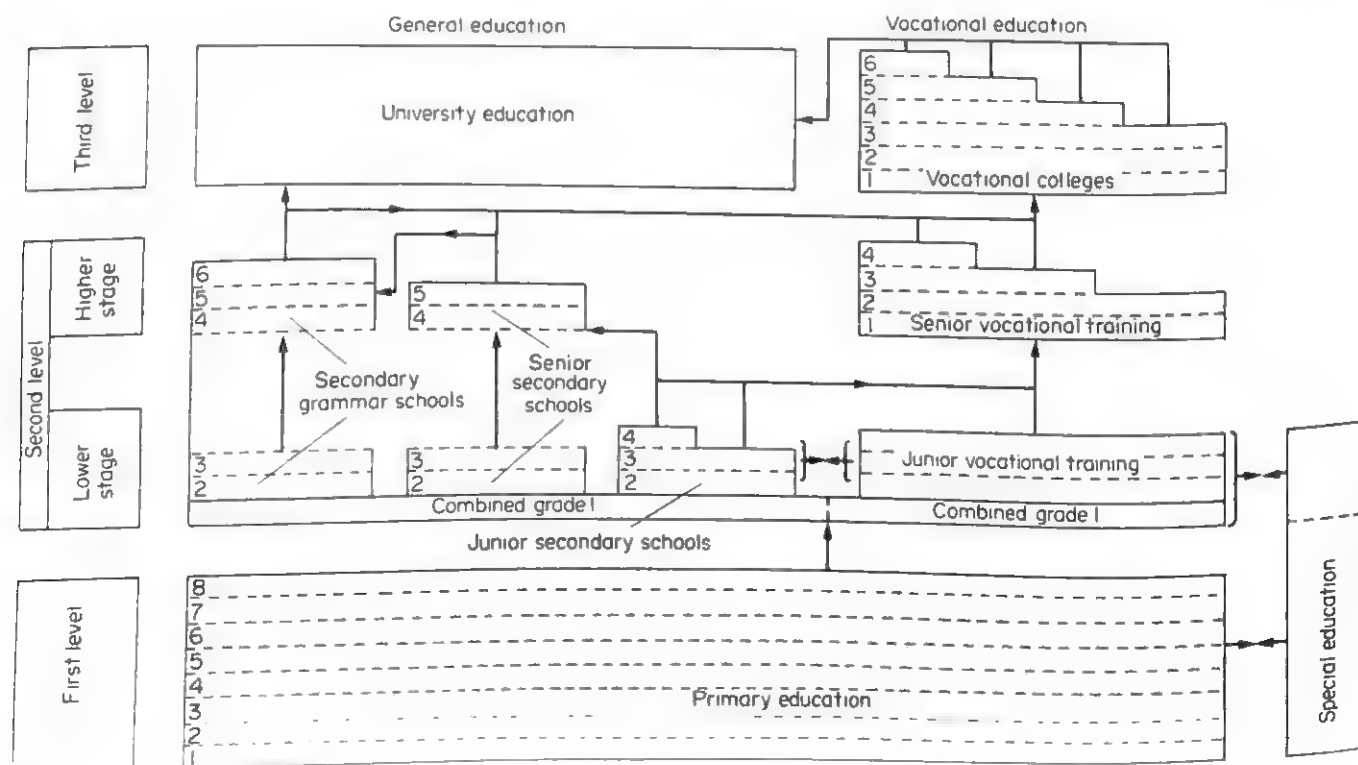


Figure 1
Structure of full-time education

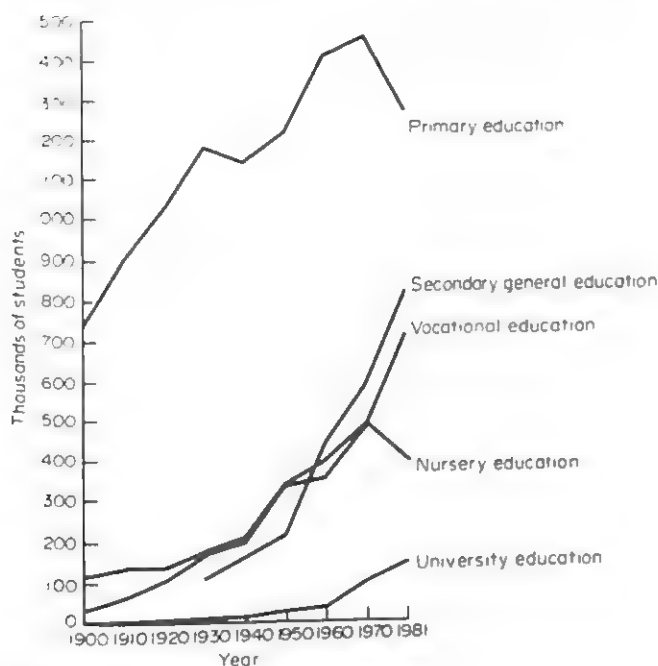


Figure 2
School enrolment, 1900–81

leaving primary school (i.e., children in the age bracket 12 to 15). The experiments involve (a) postponement of the obligatory choice of occupation or field of study; (b) curriculum amplification (in particular, greater emphasis on noncognitive objectives); (c) advancement of equal educational opportunities for all pupils through the adjustment of the curriculum to the individual pupil; and (d) equipment of pupils with the skills needed for conceiving new goals and effective social change.

Third-level education, excluding university training, is regulated by the Secondary Education Act, although the situation will change with the adoption of the Vocational College Education Act. There are many different types of vocational colleges, many having their own counterparts at the senior and junior levels. They include: technical, nautical, and agricultural subjects, domestic science, retail trade, economic and administrative studies, sociopedagogic studies, fine arts, and primary-school-teacher-training colleges. The average period of training is four years.

Dutch university education has a long tradition. The history of Leiden University dates back to 1575. By 1986, there were 17 universities, including those specializing in technology, business, theology, and agriculture. An open university became effective in 1984.

University education is regulated by three laws: the University Education Act (1960); the University Management Reform Act (1970), and the Two-stage Structure Act (1981). The last act reduces the length of the first stage of university education to four years for most disciplines. A certain proportion of successful students is subsequently admitted to the second stage, comprising three major directions: professional studies, teacher education, and research.

In 1983, a higher education bill, aimed at improving cooperation between universities and vocational colleges, was in preparation. The primary goal of all this legislation is to achieve a coherent system of differentiated education and research facilities.

Figure 2 shows the number of pupils and students enrolled in various types of full-time education between 1900 and 1981. As a consequence of the decreasing birth rate from about 1970, nursery and primary school enrolment dropped. One result of this will be 12,000 fewer jobs in nursery and primary education by 1988. The unemployment rate in education in 1982 was 12.5 percent.

Another phenomenon is the growth in the number of students receiving university and vocational-college education. The number of students taking full-time university education rose from 103,400 in 1970 to 150,400 in 1982. The rise in vocational-college students was even greater: again from 1970 to 1982, the number of full-time students rose from 72,100 to 132,500. In university education, the growth in the number of female students was spectacular: an increase of 125 percent from 1970 to 1980.

3.2 Nonformal Education

No official system of out-of-school education exists in the Netherlands. However, there is a system of adult education. This focuses on the transfer of skills on a nonincidental basis. The organizations whose primary or secondary activity is adult education are numerous and include: open (free) school, open university, trade unions, organizations of foreign workers, religious organizations, sociomedical bodies, and companies. There is little coordination among these bodies. Social training for out-of-school youngsters has also been considered part of adult education, but dissatisfaction with the training has given rise to the development of a new type of education called participation education. It is intended that this will become a type of full-time education for the 16–18 age group. Industrial training, too, is a sector of adult education. Although accurate information on the total number of persons receiving nonformal education is not available, the estimate was 1.5 million persons in 1980.

4. Administrative and Supervisory Structure and Operation

In the formal educational system, there are three distinct levels of authority:

- the direct or competent authority: each school financed with public funds has a board of education representing the administration (state, municipality, association, foundation, or church council);
- the higher authority to which the direct authority is subordinate (state, province, or municipality); and
- the executive authority (principals and teachers).

The higher authority is responsible for financing and supervising schools and for mediating in school conflicts.

The highest authority is the Ministry of Education and Sciences, which comprises four directorates general, dealing with supervision and support of preprimary and primary education (4–12), second-level education (12–18), third-level education and scientific research (18 to about 27). The provinces and municipalities play a marginal role. The expenditure of the municipalities on behalf of their own public schools determines the volume of expenditure for private schools. This is the result of the financial equalization of public and private education whereby, for each pupil, a municipality receives from the state a certain sum of money to be passed on to the local private schools. The executive authorities (principals and teachers) have little power. The school board decides matters such as the appointment of staff members and number of pupils. The competent authorities, however, do have to consult the executive authorities and, under certain circumstances, also the parents.

Private schools are run typically by foundations. The board of a foundation is fully responsible for the conduct of school affairs. The board appoints its own members. In some cases, members are appointed because they have been nominated by interested parties (e.g., parents, teachers, a participatory council).

In universities, the teaching staff and students have legal powers concerning educational structure. The faculty councils have great freedom of action.

The inspectorate of schools is the responsibility of the Ministry of Education and Sciences. There are separate inspectorates for primary education, special education, teacher training, secondary general education, vocational education, social-training courses for young workers, and education in the apprenticeship system. The functions of the inspectorates are monitoring (observance of laws), controlling (e.g., by giving advice to the central authorities), and encouraging (e.g., by supporting the competent authorities and the school staff).

The Dutch educational support system is arranged on the basis of themes: research, curriculum development, development of achievement tests, and guidance. In 1965, the Netherlands Foundation for Educational Research (SVO) was established. This foundation distributes government funds available for educational research. The funds are appropriated mainly for a limited number of para-university institutions for educational policy-oriented research. In 1975, the National Institute for Curriculum Development (SLO) was established. Its main tasks are to develop models of curricula and training/learning packages for all schools below the university level. The Institute for the Development of Achievement Tests (CITO) was founded in 1968. The institute's main aim is the development of mechanisms for the objective judgment of pupils' or students' work. It mainly develops achievement tests.

The Netherlands has about 70 educational guidance

centres (SBDs), operating at local and regional levels. Under the current geographical distribution policy, the central government subsidizes only those centres which cover an area having a population of at least 180,000 students. The local and regional guidance centres are staffed by psychologists, educationalists/developers, change agents, and other professionals in the field of learning and teaching.

In contrast to the local and regional educational guidance centres, three national educational centres (LPCs) are responsible for those parts of the Dutch educational system arranged denominationally: KPC (Roman Catholic), CPS (Protestant), and APS (public and private secular). The tasks of these national centres are to optimize education by (a) assisting local and regional guidance centres; (b) assisting schools not in the territory served by local and regional centres; (c) advising the national government; and (d) developing new models of schooling, organizational as well as didactic. The national centres are subsidized by the state. Another (the fourth) national centre (PCBB) is active only in the field of vocational education for workers.

5. Finance

Public expenditure on education experienced an explosive growth after 1950. In 1950, total public expenditure on education amounted to 557.4 million Dutch guilders; in 1983, it had increased to 25,361 million Dutch guilders. The government share in that same period jumped from 66 to 93 percent.

Education expenditure amounted to 7.2 percent of the total state expenditure in 1950 and 17 percent in 1983. Public expenditure on education by type of education from 1970 to 1983 is given in Table 1.

Expenditure per capita at constant prices of 1980 increased from 1,554 Dutch guilders in 1970 to 1,814 Dutch guilders in 1981. Table 2 presents the public expenditure per pupil/student during the period 1970–81.

6. Supply of Personnel

The training of teachers for the new primary education was fundamentally reorganized in 1984. About 60 non-university, four-year full-time teacher-training colleges were established for primary education for the 4–12 age group.

The teachers for the lower stage of secondary education are trained (for four years) at separate teacher colleges. University students wishing to become teachers in the higher stage of secondary education receive a 6–8 month training which varies from university to university in terms of curriculum and duration. Teacher certificates for secondary education can also be gained through evening classes organized by separate institutes. Teacher training for vocational education is mostly part-time (evening classes). Three types of certificate exist, relating to the three levels of vocational

Table 1

Public expenditure on education by type of education (million Dutch guilders)^a

Type of education	1970	1975	1979	1980	1981	1983
Nursery education	466.4	1,153.5	1,488.1	1,539.0	1,651.7	1,588.6
Primary education	1,879.9	3,756.7	5,004.8	5,134.7	5,391.4	4,982.8
Special education	288.7	670.9	1,029.7	1,090.4	1,170.5	1,258.7
Secondary general education	1,506.9	3,384.0	4,731.3	4,832.3	5,016.1	5,063.4
Secondary vocational education	1,259.2	2,734.8	3,682.7	3,843.2	4,024.8	4,156.8
Vocational colleges	445.5	1,071.6	1,674.5	1,731.6	1,772.6	1,962.7
University education	1,810.6	3,246.6	4,455.0	4,662.2	4,739.4	4,672.7
Other education	50.9	197.4	195.6	201.7	196.6	209.2
Not allocable by level	378.9	352.9	539.5	565.8	480.1	464.2
General administration	132.7	438.2	731.1	838.1	903.0	1,001.5
Additional expenditure of a social nature	315.8	687.4	1,151.2	1,362.6	1,547.2	
Total expenditure	8,535.5	17,694.0	24,683.4	25,801.6	26,893.4	25,360.6

^a Source: Centraal Bureau voor Statistiek 1985

education. Although there is no formal teacher training of university-faculty members, every university has a special institute which organizes on-the-job training for university teachers.

Special-education teachers are trained at evening classes at two institutes. Admission to these institutes requires students to possess a teaching certificate for primary education and a few years of education experience.

The inservice training of teachers is diverse and poorly coordinated. It is organized by teacher colleges, by national, regional, and local guidance centres, and by private organizations.

In 1982, the number of persons engaged in teaching at nursery, primary, and special schools amounted to 22,654, 67,010, and 12,369 respectively; the percentages of women being 100, 55, and 50 respectively. The number of teachers engaged in secondary education and vocational colleges, in schools for full-time education, amounted to 112,797 in 1982.

7. Curriculum Development and Teaching Methodology

Curriculum development began to be systematically organized in the 1960s. The National Institute for Cur-

Table 2

Public current expenditure per pupil/student (Dutch guilders)^a

	1970	1975	1979	1980	1981
Nursery education	680	1,670	2,740	2,980	3,280
Primary education	1,010	2,080	2,990	3,200	3,510
Special education	3,120	6,350	9,860	10,260	10,930
Secondary general education	2,440	3,930	5,160	5,190	5,380
Technical training					
junior	2,380	4,260	5,700	5,960	6,080
senior	2,530	4,370	6,850	6,950	6,870
colleges	4,160	7,260	10,530	10,360	10,900
Domestic science training					
junior	2,300	4,160	5,330	5,700	5,880
senior			6,030	6,450	6,870
colleges			7,950	7,630	7,650
Retail trade, economic and administrative schools					
junior	1,980	3,640	4,800	5,030	5,250
senior	3,680	4,780	5,720	5,860	5,890
colleges	4,510	6,570	7,270	7,440	7,020
Nursery-school-teachers' training	1,950	3,850	6,770	7,080	7,650
Primary-school-teachers' training	3,310	5,850	8,890	9,090	9,770
Secondary general school			10,360	10,750	10,830
Teachers' training and social-work colleges	4,480	7,980	9,980	10,170	10,350
University education	10,850	20,850	24,280	25,010	25,660

^a Source: Centraal Bureau voor Statistiek 1985

riculum Development (SLO) was founded in 1975, and the role of the government then became more distinct. The SLO's main task consists of developing models for curricula, or having these developed. Only "models" are developed—rather than full implementation of a curriculum—because the Dutch tend to be apprehensive of state pedagogy. Boards of education determine which model(s) to adopt and individual schools then decide on implementation. In the period 1975 to 1980, SLO undertook a wide range of activities in primary and secondary education.

In addition to the SLO, university research and development centres develop curricula in experimental form. This includes the application of new insights in the field of subject matter and/or instructional psychology, the creation of combinations of individualized and group learning, and experiments with mastery learning or intraclassroom grouping procedures.

Finally, educational publishing houses develop curricula for all sectors of education. In size and effect, these predominate in the education market. In particular, the publishing houses develop curricula in cooperation with different interested groups. For example, there may be intensive cooperation with a university research and development centre. After a period of tryouts and field evaluation, the product is revised and distributed. In other cases, a group of authors, mostly teachers, is the cooperating party. There is wide diversity in the interests of publishing houses which, on the one hand, may supply denominational schools and, on the other hand, may become involved in educational innovation. This array of activities has resulted in a manifold supply of curricula from which a school can choose.

The implementation of experimentally developed curricula as a systematic process is carried out within the framework of innovations at the national level, such as the middle school, the new primary educational system, and the open university. In general, however, the implementation of curricula is an almost unsupervised activity. There are curriculum researchers, some of whom collaborate with their peers in the United States and Canada, who are well aware of the problems.

The influence of local and regional guidance centres has reduced the diversity of methods used in such subjects as reading, arithmetic, spelling, geography, and science. But there is still a considerable range, and methods are often arbitrarily selected. The inspectorate also exerts influence on the use of new methods.

For a homogeneous class of about 30 pupils, typical methods are lecturing and recitation, group work, and problem solving. Discovery learning is becoming more popular.

In higher education, a wider variation of instructional procedures exists, including self-study systems partly using computer-assisted instruction. Lectures and practical work, however, are the most frequently used instructional methods. In the last year of study for

the master's degree, individual tasks, fieldwork, and research (projects) play a substantial part.

The major problems in this area could be summarized as follows:

- (a) Pursuing national guidelines that permit coordination between the various education sectors.
- (b) Making the curriculum more relevant to societal needs (for instance, by the integration of technical and general education, the application of micro-electronics in education, the promotion of foreign-language education in primary schools, allowing for cultural differences, and the like).
- (c) Reorganizing curricula (and teacher training), aiming at the selection of new subject matter, the reduction of the overload of subject matter, and the introduction of modern forms of organization and learning systems.

8. Examinations, Promotions, and Certification

The strongly differentiated Dutch system requires a radical decision about every pupil at the end of every school phase, a decision which, to a large extent, determines the pupil's future profession, income, and social standing.

Promotion from grade to grade in primary school is decided by norm-referenced tests. Those in the bottom quartile are not promoted while the others are. Thus, grades become more homogeneous over time. Before the final decision is taken by the teacher, the school principal and parents are usually consulted. There is a move to change from norm-referenced to criterion-referenced tests.

The transition from primary to secondary education is a much more difficult problem and has been a research issue (known as the selection and determination problem) since about 1920. When pupils complete primary education, they may be admitted to the first form of secondary education according to the conditions laid down for admission by the receiving school. The receiving school is obliged to obtain advice from the principal of the primary school, and, under certain conditions, to hold an entrance examination, administer a school-ability or psychological test, or organize a probation period. A combination of advice from the primary-school principal and an ability test is typical.

Within traditional secondary education, a grading system by subject matter is applied and is analogous to that of primary education. In various types of secondary education, experiments with intraclassroom differentiation are being conducted. In the final examination in secondary education, there is a combination of compulsory subjects. The particular combination chosen affects the choice of subsequent study. The final examination is in two parts: internal assessment and the National Written Examination.

Admission to vocational college or university is in

two steps—admission to courses and admission to examinations. Admission to courses in vocational colleges is the responsibility of the board of education. Pupils satisfying the relevant conditions, which vary according to the field of study, may be admitted. The selection mechanism may involve brief interviews, observation, the advice of the supplying school, certain tests, and sometimes the drawing of lots.

Admission to a university takes place through registration. Any person meeting the conditions of entrance (i.e., holding a secondary grammar-school certificate or being otherwise qualified to take a university examination) is registered. But, because of a numerus clausus, there is a restricted number of places. The method of selection has created a good deal of discussion. Different methods exist: (a) drawing lots; (b) selection based on examination marks for all subjects; (c) selection based on those subjects which are relevant to a certain field of study; and (d) a combination of drawing lots and selection on the basis of final-examination marks. Ultimately, a system of weighted drawing of lots was chosen, implying that candidates are assigned to categories according to their average examination mark. Each category has a different chance of admission by lot, that is, a high average examination mark means a higher chance for admission than a low average mark. The ratio of the number of categories is predetermined.

In vocational colleges, promotion from one year to the next is on the basis of achievement. The first year has mostly a selective function. The final examination, after four years, is often a formality since it is based on a system of written and oral preliminary examinations which are regarded as a partial examination. Since the implementation of the Two Stage Structure Act in universities a propaedeutic examination will as a rule be passed after one year. At the end of the four-year study, the student takes the master's degree examination.

Doctoral candidates who have passed their final examination are entitled to obtain a degree (*jus promovendi*) by preparing and publicly defending a thesis with propositions.

The selective nature of the Dutch educational system creates a high number of failing pupils/students in primary, secondary, and higher education. One solution would be to move towards a system with predetermined final objectives, mastery criteria, modules which provide concise and clear information, effectively used feedback, corrective and reinforcement procedures, flexible use of time, and a variety of teaching methods and learning strategies. Although various proposals have been made for premature completion of a course of study by the issuing of partial certificates, a system to this effect was not accepted for university education. It is possible, however, to gain credits which remain valid for a certain period of time. Within the scope of adult education (such as the open school and open university), a system of partial certificates has been specifically created.

9. Educational Research

Educational research has developed on an empirical basis since the 1920s. Before 1945, there were few researchers. They had, in general, a philosophical and pedagogical background, but some were psychologists. They were occupied largely with research into the link between primary and secondary education and the scope and content of primary education. Until 1945, educational research was primarily a private pursuit of university research workers conducting research independently.

After 1945, the social sciences greatly developed at universities. The number of graduates increased, with a peak in the 1960s and 1970s. Many of them went into teaching and/or educational research. After the First World War, psychologists became predominant among educational researchers, perhaps partly under the influence of educational research in the United States. In the years immediately after the Second World War, research was mostly on the consequences of selective education, but the emphasis gradually shifted to the changeability of the educational system, and in the 1980s, the emphasis was on the quality and effects of education. In the period from 1960 to 1965, the need for organization and coordination of educational research increased. The Netherlands Foundation for Educational Research (svo) and the Institute for the Development of Achievement Tests (CITO) were founded. By about 1975, there were 8 large (para-) university research institutes, 60 university departments, 13 research bureaus of universities, and 4 national guidance centres, all of which were conducting research and/or development work. From 1966 to 1981, the budget of the svo rose from 2.1 million Dutch guilders to over 20 million Dutch guilders and was accompanied by a diversification of research issues and a divergence of research trends. In 1975, the total turnover in educational research was estimated at 50 million Dutch guilders. Since 1978, there has been a policy of concentration of research and reinforcement of research programmes within a limited number of research centres. Universities compete for funding.

Educational research workers from different research institutes often work together in small interest groups. Their research efforts are concentrated on curriculum studies, teaching-learning processes, motivation, education and inequality, innovation and change, teacher training, school organization, and higher education.

A survey conducted of the research undertaken between 1960 and 1974 came up with the following categories: 14.7 percent was conclusion-oriented research, 43.5 percent decision oriented, 30.7 percent development work, and 11.1 percent innovation and school-guidance work. The target group at which the research was aimed consisted for the most part of teachers and students (approximately 80 percent); the dominant issues were teaching, learning, and instruction (61 percent). Research with native and foreign

languages accounted for 15 percent, sciences 13 percent, medicine 12.5 percent, technical science 11 percent, and behavioural sciences 11 percent.

As a result of government policy, the following themes can be identified as popular concerns in the 1980s: issues in primary and secondary education, adult education, education for minority groups, multicultural education, education and computers, education and the labour market, teacher training, school organization, quality of education, school careers, and the education of gifted children.

10. Major Problems

The reorganization of the educational system at all levels will be a major problem in the 1980s and 1990s, especially the integration of vocational colleges and university education. This will result in a growing need for the inservice training of teachers. Research into the postinitial education of teachers, in particular, will be indispensable in this context.

The school population will become more and more multiethnic, which will pose educational problems. As a result of the economic recession and the ensuing high rate of unemployment of both indigenous and foreign people, and the cuts in government expenditure on education, there will be fewer teachers but more demand for a differentiated education. Coping with these two countervailing forces will be a major problem.

Research budgets will be cut. Developments in the field of information technology will have a dramatic impact on education. The quality of education can remain unaffected or even be raised, depending on how information technology is used.

The fourth sector of education, adult education, will continue to grow. In 1980, there were an estimated 1.5 million persons in adult education. The expected growth arises from the rapid societal changes necessitating life-long education and from increasing leisure due to shorter working hours and often prolonged joblessness. Restricted government resources will make it compulsory to put the "profit principle" (the sociopolitical principle by which the user of a public service pays a fair amount for the benefit obtained) increasingly into practice. A problem which will make itself greatly felt is the adjustment of education to the labour market, especially since society is urged to attempt to develop innovations (such as automation and robots) requiring fewer, but more specially skilled, personnel.

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New Zealand

W. L. Renwick

New Zealand has been inhabited since about the tenth century AD, when Maori from southwest Polynesia first

began to settle in what they called Aotearoa—The Land of the Long White Cloud. English-speaking settlers

from Australia and the United Kingdom began arriving from 1792, at first in small numbers. Since 1840, when New Zealand became a British colony, British institutions and forms of life have strongly influenced the development of the country's government, legal system, religious and social life, and its education system. Since about 1960, however, as the Maori population has become larger, more urbanized, and more effective politically, there has been a growing acknowledgment of the importance of Maori institutions and ways of life. New Zealanders who identify as Maori constitute 12 percent of the population. During the same period, New Zealand has experienced a new wave of Polynesian migration: Pacific Islanders who have either migrated to New Zealand or been born in it now comprise nearly 3 percent of the population. Coming to terms with cultural diversity, with particular reference to Maori and Pacific Island cultural forms, is a major national concern, as New Zealanders respond to the separate and very different European and Polynesian strands of their national tradition.

There are also small groups whose forebears came to New Zealand from various countries in Europe or Asia—German, Swiss, Scandinavian, Dutch, Polish, Italian, Greek, Yugoslav, Indian, and Chinese are the most numerous—but their aspirations for cultural adaptation and expression have been dealt with unobtrusively over the years by the groups concerned, for the most part effectively.

As a settlement colony, New Zealand increased its population by immigration as well as by natural increase. Immigration is, however, no longer a significant source of increase. Some 83 percent of the current population were born in New Zealand. Total population reached 2 million in 1952 and 3 million in 1973. It is now 3.23 million (March 1983) and is not expected to reach 4 million before 2016 at the earliest. Rates of live births increased from 19.7 per 1,000 mean population in 1943 to 26.2 in 1962 but have since declined. In 1982 the rate was 15.69 per 1,000. Maori birth rates remain higher than for the population as a whole (21.94 in 1982) but birth rates for Maori as well as non-Maori continue to fall.

With an area of 269,000 square kilometres (103,860 square miles), including inland waters, New Zealand is about the size of Japan or the United Kingdom. The landscape is dominated by mountain ranges, broken hill country, and fast flowing rivers which have created river plains near the coast. A temperate climate with high levels of rainfall and sunshine provides the basis for agriculture, horticulture and forestry, the country's primary industries. Half of the country's land area is in grassland, and a third is covered by mountains, waste land, national parks, and reserves. The broken nature of the country, much of which was covered with primeval forest, has presented major difficulties for internal communication. Until well into this century the settlement of the country followed the coastline and the navigable rivers. Small scattered communities remain a feature of

rural New Zealand, though roads, aircraft, radio, and television have broken down the earlier sense of isolation. Local loyalties, dating from the time of a particular settlement, nevertheless remain a strong element in the consciousness of New Zealanders.

Of the two main islands, the South Island had the larger population during most of the nineteenth century. Since 1900, however, the North Island has outstripped it. At the latest census (1981) 73 percent of the total population lived on the North Island. The Maori have always lived predominantly on the North Island. Today, in Auckland (population 839,500), nearly one in five is a Maori or Pacific Islander. More than 90 percent of the enrolment in some schools is Maori or Pacific Islander.

As well as the movement of population from south to north there has also been a long-term movement from rural to urban living. The majority of the population (83 percent) lives in urban centres with populations of more than 1,000. The percentage of urban Maori is now not much different from the percentage for the population as a whole. The effect of internal migration on the viability of small country schools is a continuing source of concern to rural communities.

New Zealand depends heavily on overseas trade for its development and progress. The value of its exports as a proportion of gross national product (GNP) is among the highest in the world, a fact which reflects its colonial experience as a dependent economy. As recently as 1940, 88 percent of the value of New Zealand's exports went to the British market. Since the 1960s, however, the diversification of the New Zealand economy and of its overseas trade have been major objectives of national policy. In 1982, 14 percent of exports went to Britain, 9 percent to other countries of the European Economic Community, 14 percent to the United States, 13 percent to Japan, 15 percent to Australia, and the remaining 35 percent to a large number of countries.

The composition of exports is also changing. The earlier heavy reliance on meat, dairy products, and wool is changing. As recently as 1970 these products earned 76 percent of New Zealand's export income. By 1982 they had fallen to 56 percent and manufactured goods had risen to 20 percent—twice the 1970 percentage. Eleven percent of the work force are engaged in the primary sector, 23 percent in the secondary, and 62 percent in the services sector.

A growing, restructured economy holds the key to the unemployment which, since 1974, has become a national problem. In July 1983 5.9 percent of the work force were registered as unemployed and a further 2.7 percent were employed in job creation schemes. Young people with low academic qualifications, Maori and Pacific Islands youth, women without professional or technical qualifications, and disabled people are most at risk to unemployment. Women comprise 34 percent (1981) of the full-time labour force, a level of participation which is comparatively low among industrialized countries but which is rising.

Since the 1960s governments have made much use of

national development conferences and other consultative devices to clarify development objectives, set targets, identify issues to be resolved and policies to be followed, and to indicate lines of development for concerted effort by the public and private sectors of the economy. The New Zealand Planning Council, a statutory body, performs an important public function through the inquiries and public consultations it initiates and through its published reports and recommendations to the government on a wide range of issues in social and economic planning.

New Zealand is a parliamentary democracy conducted on the Westminster model. The central government, formed from members of the majority party in parliament, is the most important single institutional influence in New Zealand public life. More than one-quarter of the labour force is employed by the central government or by authorities funded by it.

1. Goals of the Education System

Education has long been seen by New Zealanders as a means of personal betterment. And in a colonial society where social distinctions, though clearly evident, did not for various reasons harden into a class-based system of education, the publicly supported education system has been seen increasingly in terms of its contribution to equality of educational opportunity. The only capital that most young New Zealanders have is the educational capital they acquire through the education system. A statement made in 1939 by the Hon. Peter Fraser, Minister of Education (and later Prime Minister) in the first Labour Government has come to be seen by New Zealanders as the classic formulation of what they expect the education system to achieve for themselves and their children: "The Government's objective, broadly expressed, is that every person, whatever his level of academic ability, has a right, as a citizen, to a free education of the kind for which he is best fitted and to the fullest extent of his powers."

The range of education services provided or assisted by public expense has been greatly extended during the last 40 years and particularly since the 1960s. As well as the main provision of primary and secondary schooling, there is now a comprehensive range of educational services available for preschool children and for children of all ages with disabilities and special needs. There is greater recognition of the contribution that Maori, Pacific Islanders, and other cultural minorities can make to the life and work of educational institutions at all levels. Tertiary education in some form has become a significant factor in the lives of increasing numbers of New Zealanders. As the universities have grown they have greatly extended the range of their teaching and research. Technical institutes or community colleges have been established in the 16 main centres of population to meet the requirements of an increasing number of occupations for higher levels of education and training. New Zealand has a long tradition of adult

education: the concept of continuing or lifelong education has thus found a ready response and has been the subject of much public discussion and policy development during the last decade. The generally high level of education in the population is widely acknowledged to be vital to the successful restructuring of the economy.

2. Size and Structure of the Education System

One New Zealander in every three is actively engaged in the education system either as a full-time or a part-time student or as a teacher or administrator. Others, in addition, are enrolled in courses conducted by other government agencies or by enterprises, professional or voluntary associations. Enrolments in 1983 were: 58,000 in kindergartens, playcentres or preschool classes at primary schools; 476,000 in primary or intermediate schools; 231,000 in secondary schools; 33,000 full-time, 13,000 part-time, and 10,000 extramural students in universities; 3,500 in teachers' colleges; and 8,000 full-time, 38,000 part-time, and 30,000 extramural students in technical institutes or community colleges. Primary-school enrolments have been falling since 1975 and are forecast to fall still further during the 1980s. Secondary enrolments are still increasing slightly (the extent to which students stay longer at school is closely related to job opportunities) but are expected to decline from the mid-1980s. Teachers' college intakes were greatly reduced in 1982 and are expected to continue at this lower level for some years. University enrolments are expected to increase steadily until the 1990s. Technical institutes and community colleges are expected to continue the strong roll growth of the last twenty years. By the year 2000, on current projections, technical institutes and community colleges could have, in total, as many students (expressed as equivalent full-time students) as the universities.

Children begin primary school at age 5 and are required by law to be enrolled in a school until they turn 15. The complete cycle of schooling takes 13 years.

Table 1
Participation in education system as a percentage of the population age groups, by males and females (1982)

Age	Males		Females	
	Full-time	Part-time	Full-time	Part-time
19-20	13.6	21.6	13.0	11.2
18-19	17.9	17.8	17.8	10.9
17-18	35.0	10.7	37.7	7.8
16-17	66.2	4.6	71.7	3.9
15-16	88.9	1.9	93.0	1.9
5-15	100		100	
4-5		69.0 ^a		69.3 ^a
3-4		39.5 ^a		40.6 ^a

^a Enrolments in kindergartens, playcentres, and preschool classes at primary schools only

Eight years of primary schooling (of which the last two years for most children in urban centres take place in separate intermediate schools) is followed by up to five years secondary schooling.

Students continuing their education at the tertiary level do so in one or other of three types of institution. Those proceeding to university may do so either on a full- or a part-time basis, although many of the professional schools require full-time enrolment. Those accepted for courses of teacher training will enrol at a teachers' college and will pursue a course which in most cases will combine, either concurrently or consecutively, study in a teachers' college with study in a university. Those entering apprenticeships, technical cadetships, or courses of initial training for nursing and other health sciences will enrol as part- or full-time students in technical institutes or community colleges. The trade and technician certificating authorities grant their awards only to candidates who, as well as meeting examination requirements, have been employed for a required period in the occupation for which they will be certificated. Most of the students who attend technical institutes or community colleges are thus employees who are released, usually on pay, to undertake over a period of years a series of full-time courses of study which will vary in length from 3 to 18 weeks a year.

There are limits to the number of students admitted each year to courses of tertiary education associated with apprenticeships, technician cadetships, health services, teaching, and the professional schools of the universities. Admission to general degree courses in arts and sciences in the New Zealand universities remains, however, open and flexible. Full-time university study has become the norm but degree structures and requirements accommodate part-time students. Students may begin a degree course at one university and receive credit for the work they have done if they transfer to another university. All the universities allow adult students who have not passed the University Entrance examination to be granted provisional admission and, if successful in their university studies, to proceed to a degree. About 9 percent of each year's university admissions are in that category. The universities also give credit towards their degrees for courses successfully completed in teachers' colleges and for some technical institute courses. The distinctions within tertiary education are thus not sharp nor exclusive.

There is also much cooperation between formal and nonformal educational agencies at all levels—for example, by the universities through their extension programmes, by secondary schools through their evening classes, and by technical institutes and community colleges through their guidance and advisory services as well as through courses they can run in response to community need. Until 1970, the six main centres of population were much better provided for than the smaller cities and rural New Zealand. Since then, the resources of the formal system have been very considerably enlarged through the establishment of com-

munity colleges in 10 provincial cities and rural education activities programmes (REAPS) in 13 rural smaller centres throughout the country.

There is comprehensive provision for distance education. The New Zealand Correspondence School (established 1925) provides primary, secondary, and continuing education and also services for parents of preschool children and home-bound children with special educational needs. Adult students outnumber enrolments of children of school age. The Technical Correspondence Institute (established 1943) teaches a wide range of courses of trade, technician, and professional training by correspondence. Massey University provides a national service for extramural university students.

3. Administration

The education system combines strong elements of national, local, lay, and professional influence. It is a national system: the legal authority for all educational institutions derives from the Education Act, the Universities Act and other acts of the New Zealand parliament. It is a centrally funded system: all public money appropriated for education is authorized by parliament. The minister of education, on the recommendation of the University Grants Committee for the universities, and on the recommendation of various advisory bodies for the rest of the system, has the final power of decision on curricula and other academic developments, levels of funding, and the introduction of new policy initiatives. The Department of Education has wide responsibilities under the Education Act for the supervision and efficient conduct of public education.

Except for the Correspondence School and a few residential schools for children with special needs, however, all educational institutions are controlled and managed by statutory lay controlling authorities. There is an influential network of national organizations of controlling authorities and voluntary associations who ensure that the concerns of their sector or special interest are understood by the minister of education, the government, and members of parliament, as well as by the public through the media.

State school teachers are appointed by local or district controlling authorities but their salaries and conditions of service are negotiated nationally and apply uniformly throughout the country. Teachers in universities, technical institutes and community colleges, teachers' colleges, secondary schools, primary schools, and kindergartens have separate national organizations which negotiate on their behalf and seek to influence national educational policies.

The Education Act makes provision for private schools which must be registered and comply with state standards. Whether and to what extent private schools should receive financial assistance from the state has been a major cause for public debate since 1877, when the national education system was established. Regis-

tered private schools receive state aid to meet 50 percent of their teachers' salaries, abated for schools that have better pay scales or staffing ratios than state schools. Various other subsidies, services, and tax rebates are also available to private schools or to the parents of the children enrolled in them.

The historic relationship between state and private schools has changed as a result of the Conditional Integration of Private Schools Act 1975. That Act, the result of close negotiation between state and private school interests, enabled proprietors who were prepared to meet its conditions to negotiate an agreement with the minister of education to become an integrated state school, and have all recurrent expenditure funded by the state. Ninety percent of the private schools registered in 1975 were controlled by Roman Catholic educational authorities. Virtually all of those schools became integrated state schools by 1983. Their addition increased the state system by about 10 percent. A number of private schools administered by other religious denominations have integrated or will do so. Only a few registered private schools remain. In 1983, 2 percent of primary and 5 percent of secondary students were enrolled in them.

For a national, centrally funded system the arrangements for administration and supervision are complex. This reflects in part the long-standing tensions between central and local authority and between sectional interests within the system. It is also a consequence of awkward geography and the uneven distribution of population. The seven university institutions are funded by quinquennial block grants which are negotiated for them by the University Grants Committee. Technical institutes, community colleges, and teachers' colleges are funded by annual grants administered by the Department of Education. Secondary schools are administered by their own boards of governors which are funded by annual grants administered by the Department of Education. Primary schools are administered by district education boards which are elected by school committees for each school (each district education board is funded by grants made available to it annually by the department). Kindergartens and playcentres are administered by local associations; their grants are negotiated with the department by their national organizations.

The Department of Education provides the administrative infrastructure for the system through a head office, 3 regional offices, 10 teams of primary inspectors (located in the offices of the 10 district education boards), and 4 teams of secondary inspectors.

4. Finance

Public expenditure on education grew from 2.2 percent of GNP in 1940 to 5.3 percent in 1982-83. As a percentage of government expenditure it grew from 5.8 percent in 1940-41 to 17.6 percent in 1971-72. It was 12.8 percent in 1982-83. Of the current annual budget of

NZ\$1,693,735,000 (1983-84), 27.1 percent is to be spent on tertiary, 29.1 percent on secondary, 38.8 percent on primary, and 1.4 percent on preschool. This includes capital expenditure. Based on expenditure in 1982-83 unit costs per student (including salaries and capital costs) for the various sectors are: playcentres NZ\$111 (there are no salaried staff); kindergartens NZ\$502; primary NZ\$1,296; secondary NZ\$2,018; technical institutes and community colleges NZ\$5,136; teachers' colleges NZ\$9,897; and universities NZ\$6,434. The comparatively high figure for teachers' colleges reflects high student allowances for teachers' college students.

Students enrolled in full-time courses in universities, teachers' colleges, technical institutes, and community colleges are eligible for Tertiary Assistance Grants. These pay 75 percent of tuition fees, a study grant of NZ\$30 a week (1984), and accommodation grants of NZ\$25 a week (1984) for students required to live away from home to follow their course of study. Hardship grants ranging from NZ\$6 to NZ\$47 a week (1984) are also payable to students with dependant children or special needs. Several banks operate student loan schemes.

5. Supply of Teachers

In 1983 there were 43,500 teachers and 3,400 students training to be teachers. Of the teachers 3,100 are employed in universities, 2,650 in technical institutes and community colleges, 490 in teachers' colleges, 14,700 in secondary schools, 21,100 in primary schools, and 1,190 in kindergartens.

The system is now largely free from teacher shortage. A few remote primary schools still have difficulty getting teachers (usually women teachers) for their junior classes. Some secondary schools still have difficulty recruiting teachers of English, mathematics, and science. There is, at all levels, a lessening demand for teachers, and the quality of new recruits is improving.

6. Curriculum Development and Teaching Methods

School curricula are determined nationally and interpreted locally in each school. All syllabi of instruction are approved by the minister of education and supervised by the Department of Education's inspectors of schools. Changes in official syllabi are, however, the last stage of processes of consultation, development, inservice training, and evaluation which usually take several years and which are designed to involve teachers in all parts of the country and, increasingly, interested members of the public.

The public examinations at the 11th, 12th, and 13th years of schooling also exert a strong national influence on secondary-school curricula. The two examining bodies—the Universities Entrance Board and the School Certificate Examination Board—are both

national bodies whose examination prescriptions are followed in all secondary schools. Teachers are, however, well-represented on these boards. Consultation between the examining bodies and their constituent schools is also well-developed. Examination requirements are kept in line with the objectives of curriculum development.

National syllabi and examination prescriptions are deliberately expressed in general terms. The responsibility for the interpretation of syllabi, for their adaptation to local circumstances, and for the general management of schools rests with the principal and teachers in each school. Methods of teaching are the professional responsibility of individual teachers, under the guidance of heads of departments or principals.

Much of the teaching in technical institutes and community colleges is directed towards the external examination requirement of trade, technician, and other examining or certification authorities. There is, however, a strong tendency for the interpretation of these requirements to be delegated to the institution, whose teachers determine their standards through a combination of internal assessment and internal examinations. The teachers' colleges and universities determine their own curricula and standards of acceptable performance in relation to courses that will have received national approval in general terms after much consultation by teachers of a particular subject.

7. Promotions, Examinations, and Certificates

Children may enter school on their fifth birthday (they are not compelled by law to enrol until they are 6) and all 5-year-olds are enrolled within a few weeks of it. Promotion to the 11th year of schooling is on the basis of age and maturity. Very few children progress through school at more than a year above or below the average for their class. There are no admission tests for state secondary schools.

Public examinations and national leaving certificates are awarded at the end of the 11th, 12th, and 13th years of schooling. A student's further promotion at secondary school or to tertiary education is strongly influenced by performance during each of these critical years of schooling. The School Certificate, an examination sat at the end of the 11th year (the fifth form), is a test of general education. Since the 1950s this national examination has become a defining cultural norm. It is widely regarded by New Zealanders as an indication of academic promise and a prerequisite for entry into various occupations. Some 79 percent of the age group sat the examination in at least one subject in 1982 and 44 percent passed in three subjects or more. Promotions to the 12th year (the sixth form) are made by the school principal on the basis of School Certificate results and his or her judgment of each student's ability to handle sixth-form studies. The University Entrance award is made at the end of that year. Most of the successful candidates are accredited by their schools.

The remainder sit an external examination conducted by the Universities Entrance Board. Some 27 percent of the age group qualified for University Entrance in 1982. About one-half of those who pass will later study at a university. The others will enter employment, often associated with full- or part-time study in a technical institute or community college on the basis of their pass in University Entrance.

Those going to university may do so at the end of the sixth form if they have passed the University Entrance examination but the great majority complete a seventh-form year before matriculating. The Universities Scholarships and Bursaries examinations are sat at the end of the seventh-form year and successful candidates receive a financial supplement to their tertiary assistance grants for later full-time study.

8. Educational Research

Educational research in New Zealand began to take on a life of its own during the 1920s through the work of a small number of university teachers of education and their students. The commitment of university teachers to research has continued and deepened, particularly since the 1960s. The most important institutional influence on the development of educational research has, however, been the New Zealand Council for Educational Research, a statutory, largely government funded, but autonomous body, which was established in 1934. The Department of Education has a research branch and promotes research on policy issues. Funds for educational research are also available from the University Grants Committee, the Social Sciences Research Committee of the National Research Advisory Council, the Mental Health Foundation, the Medical Research Council, and other trusts.

9. Major Problems

In a centrally funded system, where education must compete with many other desirable objectives of government expenditure, the adequacy of the financial provision is a perennial problem. It has been a major problem in New Zealand since the first oil shock of 1973 and is likely to remain so until at least the mid-1980s. New Zealand governments have at once to curb the growth of public expenditure and develop the necessary infrastructure for a restructured economy. Expenditure on public education is thus part of both the problem and the solution. Falling primary and secondary enrolments present difficulties of redundancies and surplus teaching accommodation: they also provide opportunities for qualitative improvements in educational services without increasing the percentage of the GNP to be allocated to public education. The universities similarly face a future in which they must open up new fields of research and teaching during a period of slow roll growth and financial constraint.

Equity issues will continue to exercise the public conscience. The experience of many New Zealanders is at odds with the public rhetoric of an education system committed to the removal of inequalities. Much is being done but more will have to be done to ensure that the education system deals more effectively with the educational needs of members of cultural minorities, females, children at risk to failure or from adverse home or social backgrounds, and adults as well as children and young people with disabilities. The contribution of education and training to the changing requirements of working life is a major concern in the vitally important and related contexts of employment policies, technological change, and economic restructuring.

The system of educational institutions and services is comprehensive and flexible enough to cope with the educational demands that can now be foreseen. What has still to be completed is the infrastructure of policies and rights that will enable people to take advantage of what the system has to offer at those times in their lives when they need to add to their knowledge and skill for an increasing range of personal, social, civic, and vocational reasons. And, as the community at large takes on more of the character of a learning society, the number of agencies and associations that will need to develop educational functions will increase.

It seems probable, too, that public debate about the objectives to be served by the public education system will continue unabated. Cultural and ethical diversity are now acknowledged to be features of the New Zealand community. Crusaders of all descriptions still seek to save or remake society through the schools. Whether state schools can be made to serve ends that are often

conflicting or inconsistent is the main educational issue for the future.

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Nicaragua

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The Republic of Nicaragua is located in the middle of the narrow strip of land known as Central America, linking North and South America. With an area of 130,000 square kilometers (50,193 square miles), Nicaragua has its eastern and western coasts on the Atlantic and Pacific shores, respectively. Because of its geography, the richness and variety of its land, and its climatic conditions, the country has traditionally been divided into three large regions: Pacific (19,300 square kilometers), North Central (36,891 square kilometers), and Atlantic (74,689 square kilometers). The most important cities, the majority of the population, the increasing infrastructure, industry, main services, and the nation's administration are all concentrated in the Pacific region. The Atlantic Coast region has historically been deprived both geographically and culturally compared with the rest of the nation.

Nicaragua had 835,686 inhabitants in 1940, just over 1 million in 1950, 1.88 million in 1971, and an estimated

2,732,818 in 1981. The population growth rate is 3.4 percent per annum, so that in the year 2000 the population is expected to be 5 million. The average population density is 20.4 per square kilometer ranging from 82 in the Pacific region to 3 in the Atlantic region. In 1980, some 52 percent of the population lived in urban areas as opposed to 35 percent in 1950. About 50 percent of the population are under 15 years of age.

On July 19, 1979, the Popular Sandinista Revolution (PSR) came into power, after overthrowing Somoza's dictatorship and the political system under which the country had been governed since 1936.

The Popular Sandinista Revolution is defined as popular, democratic, nationalist, and anti-imperialist. There is a mixed economy and ideological pluralism. Internationally, Nicaragua is a member of the movement of nonaligned countries. The National Directorate of the Sandinista Front guarantees the nature and essence of the revolution. Executive power is held by a

three-member junta which is called the Junta of the National Reconstruction Government. The state council, which is the people's council, is the legislative organ made up of representatives from base organizations and political parties. Judicial power rests in the supreme court of justice.

Even though Nicaragua is a bountiful country agriculturally (producing mainly cotton, coffee, sugar, banana, and meat), in renewable and nonrenewable natural resources, it is poor in terms of income, goods, and national-services distribution. There are wide social-class differences, injustice in landholding, illiteracy, malnutrition, exploitation, lack of attention to the rural sector, and inefficient industry. Nicaragua has had to import raw materials, to provide cheap hand labor, and succumb to international market pressures with respect to prices for its products.

The economic, social, and political structure that prevailed for decades—a result of a deformed and dependent capitalism consolidated by all kinds of foreign intervention—determined the general characteristics of education in the country prior to the revolution: elitist, mnemonic, and centrally motivated with private education. Higher education was received abroad, usually in the United States. Enrollment rates were low. In 1978 the enrollment rates were: 4.5 percent in kindergarten, 64.8 percent in elementary education, and 17.4 percent in secondary school. Participation rates were also low: 22.7 percent in elementary school, but only 6.5 percent in rural areas. Illiteracy was 50 percent, reaching almost 90 percent in some rural areas.

Before the revolution, professional training for careers related to economic development prevailed (in business administration, economics, law, medicine, civil engineering, etc.), but training for jobs required by the nature of the country were ignored (e.g., in agricultural sciences); technical training was underdeveloped and the services industry overdeveloped. Finally, teacher training became deficient and the school system deteriorated.

1. Present-day Educational Aims

The basic principles for the Popular Sandinista Revolution established the purposes, objectives, and general principles of the new education in Nicaragua. These basic principles were formulated after considering opinions from 30 base social organizations by means of a National Survey on Education which was started in early 1981. The major goals of the new education are to provide an education:

- (a) that will yield a new person within a new society—a structural transformation of the society;
- (b) within and for creative labor, for a productive way of life, and for the development or the achievement of the new society;

- (c) within and for the basic principles of the Popular Sandinista Revolution (popular, democratic, nationalist, anti-imperialist), that is, an education for the self-determination and independence of the Nicaraguan people;
- (d) to incarnate and internalize the ideology and example of the heroes and martyrs that made the revolution.

The new education has the following objectives:

- (a) to strengthen independence, self-determination, sovereignty, and national identity;
- (b) to strengthen the Sandinista concept of the new person in the new Nicaragua;
- (c) to associate teaching and research with the reality of the people and the country by means of scientific method, theory and practice, and intellectual and handicraft labor;
- (d) to take advantage of the cultural and scientific contribution from humankind rejecting all forms of cultural penetration or alienation and to transmit and develop concepts and instruments which are necessary for progress as well as strengthening the origins of Nicaraguan culture. Its promotion and diffusion will be closely tied to educational programs;
- (e) to promote the deepest respect for individual, human, social, and cultural rights;
- (f) to retrieve the extraordinary educational potential of labor. Productive labor will be an essential shaping element and also an integral part of the curriculum;
- (g) to stimulate a liberating conscience and an analytical, critical, participative, and creative capacity in the student;
- (h) to offer a humanistic, scientific, ideological, and political training that will result in the values which are upheld by the revolution.
- (i) to train the necessary qualified human resources for the development and consolidation of the revolutionary process by means of general socio-economical development plans.

2. Structure of the Educational System

2.1 Formal Educational System

The structure of the formal educational system is almost the same as before the revolution, but the purposes and objectives of education, its content, and some aspects of the administration and organization have changed. The main change has been the creation of a higher technical education center providing short technical training in fields directly related to production.

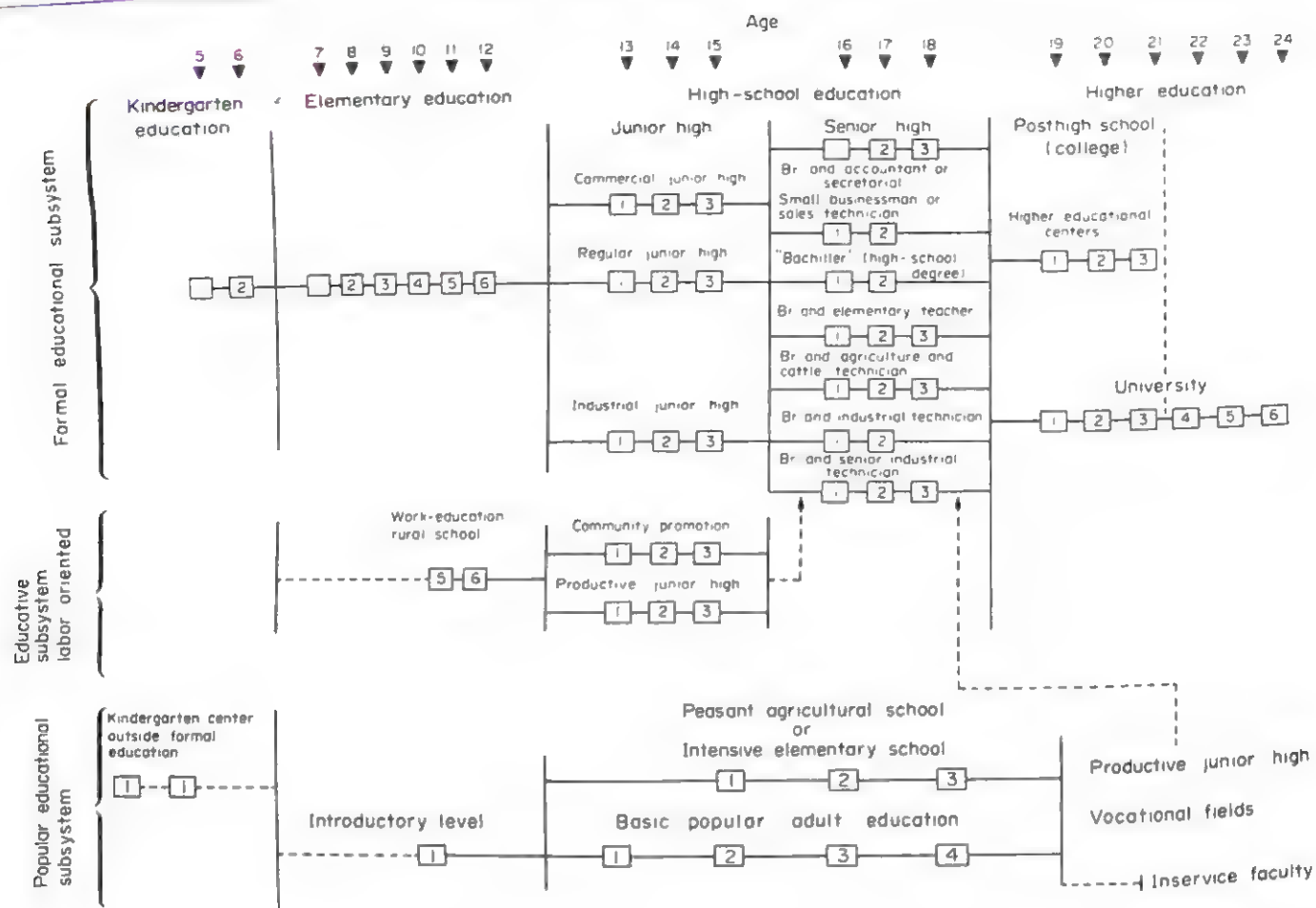


Figure 1
Structure of the educational system 1982

The main structure of education can be seen in Fig. 1. Kindergarten education precedes elementary education which consists of six grades (7–12-year-olds), followed by high-school education which is divided into three years of junior high and two or three years of senior high according to the field of study. Senior-high studies lead to a high-school degree in a particular area of study. This is called the *Bachiller* (Br.) degree. Students may continue post-high-school and higher level studies in which some short technical trainings are offered. In general, college education offers a bachelor's degree after five or six years of study. College education is organized by the National Council of Higher Education.

One major change which has occurred is the creation of a subsystem of popular education with programs relating education to productive labor. This can be seen at two levels: firstly, agricultural schools for peasants and rural work-labor schools and, secondly, the Productive Junior High School. These programs, which are in an experimental phase, constitute the beginning of what will come to characterize the new Nicaraguan education—its relation with productive labor.

According to data for the 1980–81 school year, 503,497 students were enrolled in elementary school,

30,524 in kindergarten, 1,430 in special education, 129,743 in high-school education, and 34,710 in higher education. The increases in enrollment in elementary education and high-school education are shown in Figs. 2 and 3.

It should be noted that the enrollment percentages of 57.3 percent in the urban areas and 42.7 percent in the

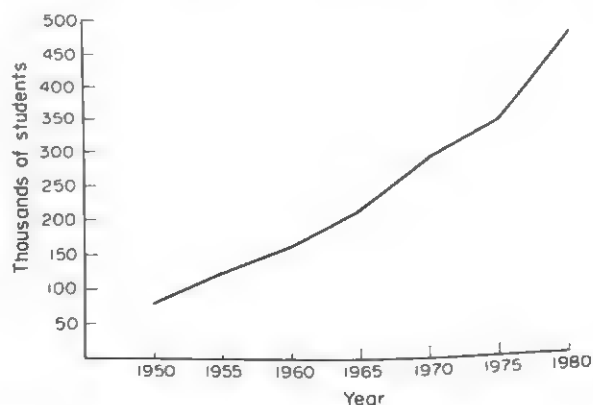


Figure 2
Elementary-school enrollment 1950–80

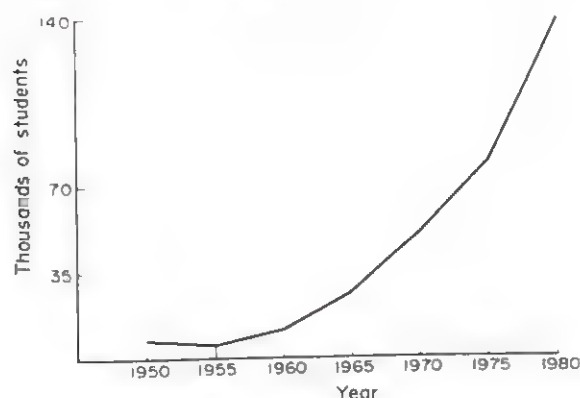


Figure 3
High-school enrollment 1950-80

rural areas have remained constant. Of all children enrolled in 1980 at elementary-school level, 88.2 percent were in state schools and 11.8 percent in private schools. At high-school level, 79 percent were in state schools and 21 percent in private schools.

2.2 Nonformal Educational System

A nonformal system of education has begun as a result of the National Literacy Crusade. The first level consists of early childhood centers, child development centers, community childhood centers, and popular kindergartens. In all of them there is a high degree of popular participation in which the people educate the people. The second level is called Basic Popular Adult Education which starts with a one-year introduction on the principles of the revolution. This program in 1981 comprised 163,890 students. The program was completed in 1982, extending the program to six levels (or semesters) instead of four levels as when the program started.

In these programs, students are organized into groups of 8 or 12 people which are known as Popular Educational Groups. There are 20,441 such groups and each group is coordinated by the most advanced student in the group who is called the coordinator. About 10 of these educational groups are supervised by a recently graduated teacher who thus offers a very practical and useful social service. Coordinators (numbering 20,167) and teachers (numbering 3,917) represent the group of popular teachers who are in charge of this form of essential popular education.

Parallel to the development of the Basic Popular Adult Education program is the Peasants' Agriculture School and Accelerated Elementary School. The first serves youths from the age of 18 and offers general basic culture and training in agricultural and animal-husbandry techniques, according to the needs of the area where the school is located. The second serves laborers from urban centers and offers them intensive night courses.

All programs in the popular educational system lead towards the formal educational system in which students

can continue regular studies according to ability and motivation.

All of the above constitutes a transitory phase. In the near future elementary and junior-high education will be unified to create a basic general education of nine years. At a later date it is expected that all students will then continue with three more years of education, thus having an education of 12 years.

3. Administration and Finance

The educational transformations taking place in Nicaragua are requiring new administrative forms. While these are being sought, there have been changes in the Department of Education and, by means of a regional and nuclear educational model, in the rural areas, which are still being implemented. There is a desire to decentralize administration, whereby labor and social-based organizations are represented in the National Assessing Council of Education, a body that integrates all educational forces in the country (Teachers' Association, Parents-Teachers Association, Students' Association, Catholic School Federation, etc.) and also serves as a means of communication with the minister of education.

There is also a national system of evaluation, programming, and educational inservice training which coordinates evaluation, programming, and inservice training workshops under the responsibility of a council consisting of members of the Department of Education, teacher representatives, and the Faculty of Educational Science at the National Autonomous University of Nicaragua. The workshops are held on the last Friday of every month according to grade level and, for high schools, according to subject matter. The main purpose of these workshops is to evaluate the progress of the "national education process"—what stage students have reached in the syllabi for the month—and to review the plan of activities for the coming month according to the year plan. The workshops also serve as a mechanism for self-education and education between teachers, enabling them to learn about new pedagogical, didactical, and methodological developments.

The percentage of central-government expenditure on education from 1960-61 to 1981 is presented in

Table 1
Percentages of central government expenditure on education

Year	Level		
	Elementary	High school	Higher level
1960-61	14.4	3.7	0.6
1965	11.5	2.3	0.9
1970	11.1	2.8	1.7
1975	5.5	2.6	2.1
1978	4.9	2.8	2.0
1980	4.1	2.3	1.1
1981	4.2	2.2	2.5

Table 1. The per student expenditure was 177 cordobas in elementary schools and 708 cordobas in high schools in 1961, 500 cordobas for elementary schools and 1,199 cordobas for high schools in 1978, and 1,286 cordobas for elementary schools and 1,805 for high schools in 1981 (until 1978 there were 7 cordobas to US\$1, and from 1979-81, 10 cordobas to US\$1).

Tuition in private schools varies a lot, and private education, which serves the upper classes and bourgeoisie, is regarded as having been a profitable business. Certain restrictions have been introduced on the amount charged in tuition fees in private schools.

Foreign aid was used to finance most of the 1980 Literacy Crusade which reduced illiteracy rates from 50.3 percent to 12.9 percent. Subsequent activities have reduced this figure to 11.26 percent in 1982. The Literacy Crusade cost approximately US\$12 million. Foreign aid has also helped finance the first stage of the Popular Adult Education program.

4. Teacher Supply, Curriculum Development, and School Supervision

Numbers of teaching and ancillary staff at different levels of education are presented in Table 2. In 1982, there will be a shortage of 5,000 teachers in elementary schools and 3,500 in high schools. The picture is even worse if the qualifications of teachers are considered. In elementary school, 75 percent are graduate teachers, but only 25 percent of high-school teachers have a university degree. Elementary teachers are trained in nine normal schools, and high-school teachers are trained at the Faculty of Educational Science at the National Autonomous University of Nicaragua.

Responsibility for curriculum development in elementary and high schools is shared among the division of learning programming, headquarters of school administration, division of school supervision, division of planning and educational development, and directors of regional, provincial, and district education. Teachers play a key role.

The current curriculum is transitory. New curriculum materials are being developed and evaluated. The new curricula reflect the new image of person and society which is the ideal of the Popular Sandinista Revolution. The curricula are implemented nationwide. The cur-

riculum for the Popular Adult Education program is being developed with input from program teachers and technicians of the subdepartment of adult education. Teaching materials and school textbooks are developed by a team of technicians but, before use, are subject to a social and validity process by teachers and members of the social community. At present there is a shortage of textbooks and audiovisual aids. A major problem is inservice training in new techniques for teachers.

School supervision is in the hands of pedagogical advisers who guarantee the continuity of the school programs on the basis of evaluation, programming, and inservice training workshops. The revolutionary experience has contributed innovative teaching methods. These improvements include group discussion, bibliographic and field research, active participation in work programs such as coffee and cotton picking, and projects, designed to develop creativity, in which students suggest solutions to national problems through more appropriate techniques, festivals and cultural contests, rallies, etc.

5. Examinations

The official grading system is: 91-100 Excellent; 71-90 Very good; 51-70 Good; 31-50 Deficient; and 0-30 Very deficient. The pass grade is 51. To be eligible to take the final examination a student must have an average of not lower than 30. If the final average, prior to the final exam is 90, the student is exempted from the exam. The final grade is based on the average during the school year (accounting for 75 percent of the final grade) and the final exam (25 percent). The greatest problem in examinations is posed by the need to train teachers to use the new teaching and evaluation methods. Promotion from one grade to the next is automatic. However, there is a mechanism for allocating students to departments at the university, if not for selecting them.

6. Educational Research

In the past there has been some educational research in Nicaragua. The Departments of Education of the National Autonomous University of Nicaragua and the

Table 2
Number of teaching and nonteaching staff by type of education

	Total	Teaching staff	Nonteaching staff
Elementary education	14,113	13,032	1,081
Kindergarten education	924	900	24
Special education	131	125	6
High-school education	4,221	3,556	665
Adult popular education	24,084	24,084	
Total	43,473	41,697	1,776

Central American University have had small educational research centers, but research has been the result of personal rather than institutional initiative. The main focus of interest has been on the social aspects of education.

Within the new education there has been an extraordinary national educational research and development effort with the participation of about 65,000 people—members of 30 base organizations. The effort has been directed at defining the purposes and goals of the new education.

7. Major Problems

The main problems of education in Nicaragua include preparing qualitative changes in the National Literacy Crusade, identifying administrative changes necessary to implement the new education, establishing alternative forms of education, coordinating and dovetailing formal and nonformal education, and defining and implementing inservice teacher training. Permeating all of these problems is a shortage of financial resources. These problems will continue with slight modifications throughout the 1980s. A beginning has been made with concrete measures such as the Popular Adult Education program, the systematic relation of education and labor from the fifth to the sixth grades, the inservice training program for human resources for the educational sectors, the National Evaluation Program, and the educational inservice training system with its monthly workshops.

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Niger

S. S. McIntyre

Niger, the largest nation in West Africa, encompasses an area of 1,267,000 square kilometers (489,191 square miles). It is completely landlocked and is surrounded by Algeria, Libya, Chad, Nigeria, Benin, Upper Volta, and Mali. There are three geographic zones, comprising a large desert area in the north, an arid area inhabited by nomads in the center, and a richly cultivated area in the south.

The south is by far the most densely populated area, having a population density of 35 persons per square kilometer as compared with the national average of 6.8 persons per square kilometer. In this region, from west to east, live the Djerma-Songhay (who account for slightly less than 25 percent of the population), the Hausa (accounting for more than 50 percent of the population), and the Kanuri. The Fulani (less than 0.5 million persons) are scattered in the center-south; the Manga are found in the extreme east. The northern parts of Niger are dominated by the Tureg. The total population was estimated to be 5,354,266 in 1979 (Europa 1982). The four major urban centers

in Niger are: Niamey, the capital, with an estimated population of 160,000 (1976); Maradi and Zinder, each with a population of approximately 42,000; and Tahoua, which has a population of 30,000. The city of Agadez was reported to have a population of approximately 15,000 in 1979. However, due to the recent interest in uranium exploitation in the area, the population is expected to grow (Decalo 1979). About 87 percent of Niger's population are Moslems, a small percentage are Christians, and the others are traditional animists.

Approximately 90 percent of Niger's population depends on agricultural or livestock activities. Only a small proportion of the land is cultivated, however, as much of the country is covered by desert. Major food crops include millet, sorghum, niebe, and cassava. Major cash crops include groundnuts, cotton, and sugar. The Sahelian drought of the early 1970s damaged the agricultural sector and caused serious social, economic, and political problems. In 1972, Niger produced only 25 percent of its basic food requirements. In 1974, the estimated average annual per capita income was only

US\$100. By 1978 and 1979, the agricultural sector had greatly improved, nearly to the point of self-sufficiency. Furthermore, the discovery of large mineral deposits amounting to an estimated 200,000 tons has greatly changed national economic prospects. In 1978, the average annual per capita income had reached an estimated US\$220. The future holds promise of further economic growth. Uranium production is projected to jump from the 3,800 tons produced in 1981 to 8,000 tons per annum by 1986. Other natural resources contributing to Niger's economic growth include low-grade coal, phosphates, and iron-ore deposits (Hancock 1981).

Niger gained its independence from France in 1960, after 40 years of colonial rule. It was governed by a one-party government under the leadership of President Hamani Diori until 1974. Although Diori was able to maintain a fairly stable rule for 14 years and was internationally well-regarded, dissatisfaction grew at home due to unfavorable economic conditions during the 1968-74 drought. In April 1974, Seyni Kountché, Chief of Staff of the Armed Forces, led a coup d'état and set up a military government. Kountché became president, the constitution was suspended, and the National Assembly dissolved. The new government dedicated its efforts to the economic recovery of the nation.

In 1980 a new five-year development plan was inaugurated. A hierarchy of developmental councils was formed in order to advise on developmental goals and programs. Of the 730 billion CFA francs to be invested under the five-year plan, half the sum is designated for uranium and coal development. Agriculture, communications, and education are also given significant priority (Hancock 1981).

1. Goals of Education

One of the primary goals of the national educational system is to contribute to the quantitative and qualitative increase of trained personnel. This has become an especially important concern as the nation attempts to become less dependent upon foreign assistance.

During the period from independence to 1974, the major educational goal was to raise primary-school attendance. Only 4.7 percent of the country's school-age children attended school in 1961. By 1978, the figure had risen to 18 percent. The administration pursued an

educational policy which emphasized the equalization as well as the expansion of educational opportunities. Therefore, priority was placed on those sectors of the population which had a history of impoverished educational opportunity. Programs were set up with the specific purpose of reaching women and the nation's rural population. The emphasis on rural education reflected the national economic policy of placing priority on the agricultural sector of the economy. Since 1974, the goal of increasing educational opportunity and the expansion of educational facilities has continued.

2. Structure and Size of the Educational System

The formal system of education in Niger has inherited a large number of characteristics from the French educational system. After independence, an attempt was made to alter the philosophy, methodology, and curriculum of primary education in accordance with national needs. Teachers were to be seen as fulfilling two roles: that of being an educator in a primarily rural nation and that of being a leader in community development.

The basic structure of the educational system consists of a six-year primary school, a four-year junior secondary school, a three-year senior secondary school, and university education. Young children may also enter nursery or kindergarten education after age 4. Attendance between the ages of 7 and 15 is compulsory. By 1978, 23 percent of primary-school-age children were enrolled (29 percent of males, 17 percent of females). In the same year 14 percent of youths of secondary-school age were in school (18 percent males, 10 percent females). University enrollment at that time was 0.2 percent (0.4 percent of males, 0.1 percent of females) (UNESCO 1981 pp. 3: 17, 3: 38). Table 1 presents enrollments in different levels of education from 1968 to 1978.

Primary-level education lasts six years and leads to the *certificat d'étude primaires élémentaires* (CEPE). Secondary education leads to the *brevet d'études du premier cycle* (BEPC) after a course of study whose length depends upon the program. Various types of vocational and technical education are available.

Formal educational opportunity has grown in accordance with the goal of supplying a larger number and a better quality of indigenous personnel. In the late 1960s, a secondary school for girls was opened in Niamey and a teacher-training college in Zinder. In 1971, the *Centre d'Enseignement Supérieur* was established as a nucleus for the future University of Niamey. The university became functional as such in 1974. It includes schools of science, agriculture and zoology, social sciences, letters, and pedagogy. It also incorporates the Institute of Human Research, the Human Sciences Research Institute, and the Institute for Research in Mathematics Training. In 1975, a four-year program at the *Ecole des Mines de L'Air* was started in Agadez in accordance

Table 1
Number of students attending school 1968-78

Year	Primary	Secondary	Vocational	Higher education
1968	77,300	4,100	—	166 ^a
1970	88,594	6,337	188	n.a.
1973	110,437	10,494	237	280
1975	139,000	12,310	1,500	521 ^b
1978	187,151	27,104	n.a.	782 ^c

a Studying abroad b of which 280 citizens of Niger c Of which 409 citizens of Niger

with the 1974 government policy of increasing the availability of nationally trained workers for the mining industry.

In 1963, an experimental effort to spread formal education by way of television was begun. The hope was that the program could eventually be broadcast nationwide, thus overcoming the problems of shortages of teaching personnel and of reaching isolated populations such as women and the agricultural population. From its inception until 1975, it was heavily funded and directed by French sources and personnel. Furthermore, though it was considered a technical success for the few students it reached within the Niamey area, it had only affected 1 percent of the national population by 1976. One of the largest obstacles to success has been the financial expense of such a program (Silverman 1976, Academy for Educational Development 1972, Decalo 1979).

There have been several nonformal educational programs instituted since independence. In 1968, UNESCO reported three main organizations dealing with out-of-school education: the Ministry of Information and Youth was involved in the Young Pioneers and Militia programs; the Literacy Service had extended to 356 centers attended by over 10,500 students; and the Rural Leadership Service was involved in the informal instruction of agricultural and rural concerns. Between 1962 and 1974, rural education for adults was expanded and enriched by *Animation Rurale*, a program which emphasized those topics most needed by the local community while at the same time taking into consideration the needs of the nation. Such efforts were organized at the center by *Promotion Humaine*, a program which was integrated into the Ministry of Development in 1975 (Moulton 1977). Despite all these efforts the illiteracy rate among adults is still over 80 percent.

Radio has also been used to educate and develop the rural areas and to increase communications between local and national centers. In 1962, Radio Niger was established to broadcast programs in various indigenous languages as well as in French. In 1974, its name was changed to *La Voix du Sahel* (Decalo 1979). *La Voix de l'enseignement* is a publication which gives details of educational programs which will be broadcast during the school year. It is published by the Pedagogical Study Center in Niamey (UNESCO 1971). Both radio and television programming is under the administration of the *Office de Radiodiffusion-Télévision du Niger*. In 1971, there were 36 radio sets per 1,000 inhabitants as compared to 0.5 copies of newspapers per 1,000 (International Planned Parenthood Federation 1974).

3. Finance and Administration

From 1968 to 1976, the percentage of the state budget allocated to education rose from 11.3 to 14.0 percent. Since 1976, it is estimated that this percentage has risen slightly. With the prospect of increased wealth from

mining, it can be expected that more funding in absolute terms will become available for education.

The Ministry of Education is responsible for national planning and for directing the affairs of preschool, primary, secondary, and technical institutions. The Ministry of Rural Economy is responsible for vocational education dealing with agriculture and stock breeding; the Ministry of Health is responsible for the National School of Nursing; and the Ministry of Civil Service and Labor is responsible for the National School of Administration and the Centre for Rapid Vocational Training (UNESCO 1971, 1976). Since 1974, the Council of Ministers has been appointed by the president. A Supreme Military Council supervises executive and legislative decision-making on all national affairs. Development projects are directed by the *Conseil National du Développement* (Europa 1982, Moulton 1977).

Communication is encouraged between the national and local levels through an organizational structure of 7 *départements*, 35 *arrondissements* (districts), and 11 *communes* (urban centers). A consultative and an executive body direct affairs at each level of the structure (Decalo 1979).

4. Educational Research

There are several centers of research in Niger. The University of Niamey has become an important center for research in various subject areas. In addition, it now includes the Human Sciences Research Institute which is the successor of the *Institut Français d'Afrique Noire*. The center has continued to publish a valuable series of monographs entitled *Etudes Nigériennes*. This series is printed and distributed in Paris and, as of 1979, included some 35 volumes. Niamey is also the location of the *Centre Régional de Documentation pour la Tradition Orale* which was founded in 1968. The Pedagogical Study Center in Niamey publishes *La Voix de l'enseignement* and various educational bulletins. It includes an extensive library, a printing shop, and a conference hall. In 1975, the *Institut National de la Recherche Agronomique* was established. It is now an active research organization.

Such research facilities will serve to evaluate national educational needs and develop programs to implement solutions. Serious problems remain to be solved: in 1979, only 18 percent of school-age children were attending school. The objective for the early 1980s was 25 percent. However, educational expansion in Niger is evident and, with the help of economic growth, the outlook is a promising one.

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Nigeria

B. A. Ogundimu

The Nigerian educational system is the product of development since 1841 when Western education was brought to Nigeria by Christian missionaries. This entry deals only with the educational effort from 1950.

With an area of about 941,849 square kilometres (363,650 square miles), Nigeria is one of the largest countries in Africa. It is bordered on the west by the Republic of Benin, on the east by Cameroon, on the north by Niger and Chad, and on the south by the Atlantic Ocean. The country owes its origin as a corporate state to the European scramble for Africa in the second half of the nineteenth century. The United Kingdom gained control of the territories she later christened Nigeria through a process of gradual extension of the "protectorate mandate" over the northern emirates and the southern kingdoms, a process that was not completed until about 1918 when the last independent kingdom was forcibly integrated into the new nation-state.

Nigerians are adherents of various religions including Islam, Christianity, and what is now known as African Traditional Religion. The constitution guarantees freedom of thought, conscience, and religion. Islam was first accepted in Nigeria by the ruler of Kanem who ruled between 1085 and 1097 AD (Fafunwa 1974). The religion was brought by itinerant Moslem scholars from the Arab states of North Africa. It spread in the Hausa states and beyond through traders and Islamic scholars from the fourteenth to the nineteenth century before the advent of Christianity in the country. By the time Christian missionaries arrived in Nigeria towards the middle of the nineteenth century Islam and Islamic education were strongly entrenched in northern Nigeria and geographically contiguous parts of Yorubaland. Western education was introduced by the Christian missionaries as a potent weapon in their campaign to win converts. Because the traditional rulers of the Moslem

areas objected to the activities of Christian missionaries in their domains the colonial administration discouraged Christian proselytizing work and Western education in Moslem areas. This historical fact had significant differential impact on the growth and development of secular education in northern and southern Nigeria as will be shown later.

Nigeria is a federation of 19 states. It is ruled by an elected president for the federation and elected governors for the states. The present situation is a product of historical evolution. At independence in 1960, the country was a federation of three large regions buffeted by a series of political crises which led to a military coup d'état in January 1966. The military government, under four different leaders, ruled the country until it handed over the reins of power to popularly elected civilians in October 1979. During the 14 years of military rule, there was a 30-month civil war which ended with the surrender of the secessionists in eastern Nigeria.

Nigeria recorded a population of about 32 million in the first population census of 1952-53 and 56 million in the 1963 head count. There has not been any acceptable head count since 1963. The country's current estimated population, based on the 1963 population census, is about 80 million. On the basis of the assumed conservative growth rate of 2.5 percent per annum Nigeria may be said to have a high population growth rate. At this growth rate, the population will double every 28 years. This growth rate is the result of the combined effects of a high birth rate of about 50 or more births per 1,000 population annually and a declining death rate of about 20 deaths per 1,000 per annum. Infant mortality is relatively low. It is about 187 per 1,000 live births. The population is also experiencing a high growth-dependency ratio because the proportion of the population aged 0-14 years constitutes about 40 percent of total population.

Nigeria is a nation of many ethnic groups which have some cultural similarities. Nigerians speak more than 250 indigenous languages. The three main ones (Hausa, Igbo, and Yoruba), each spoken by millions of people, are constitutionally recognized as official languages alongside the English language which is currently the only effective official language.

There have been discussions among educators and politicians as to which lingua franca is best for the nation in terms of easing communication, facilitating the educative process, and of promoting understanding among the citizens. English is assumed to be unsuitable because of its foreign origin but there is no agreement on which Nigerian language to adopt. However, current policy stipulates that all school children should be encouraged to learn one of the indigenous official languages which is not their mother tongue. Meanwhile, English remains the language of instruction in the senior classes of the primary school and in secondary and tertiary institutions.

The Nigerian economy is currently dominated by a single product—petroleum. Petroleum provides 75 percent of the government's revenue and 80 percent of the country's foreign exchange earnings (*West Africa* 7 September, 1981). Between 60 and 75 percent of the population are still engaged in agriculture but the level of productivity is severely limited by the low level of agricultural technology and the corresponding non-scientific frame of mind among the farmers.

Though large industrial establishments have sprung up in recent years, manufacturing still constitutes a relatively small proportion of Nigeria's total national output. Nonetheless, the manufacturing sector made reasonable progress during the Third National Development Plan period (1975–1980). The sector's rate of growth remained high and its total contribution to the country's gross domestic product (GDP) increased in recent years. In 1974–75, the share of manufacturing

and crafts in the GDP was about 4.8 percent. The figure rose to about 7.5 percent in 1977–78. The country's GDP grew at an annual rate of about 5 percent in the first three years of the plan period, while the manufacturing sector grew at a rate of 18.3 percent.

1. Structure and Size of the Educational Effort

The formal education system, which is currently being phased out, consists of nursery and preschool institutions, primary schools, secondary education of different kinds and duration, teachers' colleges, colleges of education, polytechnics, and universities. Nursery and preschool institutions for children less than 6 years of age are operated by individual proprietors and voluntary agencies subject to approval by the government of the state in which they are located. Primary education is of six to seven years duration, entry age being 5 or 6.

Basic secondary education lasts five years, followed by two years of preparatory work for admission to universities to pursue a three-year baccalaureate degree. Graduates of the five-year programme enter a variety of tertiary institutions such as teachers' colleges for the training of primary-school teachers, colleges of education for the training of secondary-school teachers, and polytechnics and colleges of technology. The best and the brightest among them enter the universities directly for four years of study leading to baccalaureate degrees.

The National Policy on Education (Nigeria 1977a, 1981c), adopted in 1976, introduced some innovations, the most prominent being the introduction of a uniform six-year primary education throughout the country, the introduction of a uniform two-tier secondary education of six years duration divided into a three-year junior secondary and a three-year senior secondary programme, and an enrichment of curricula offerings through diversification (see Fig. 1).

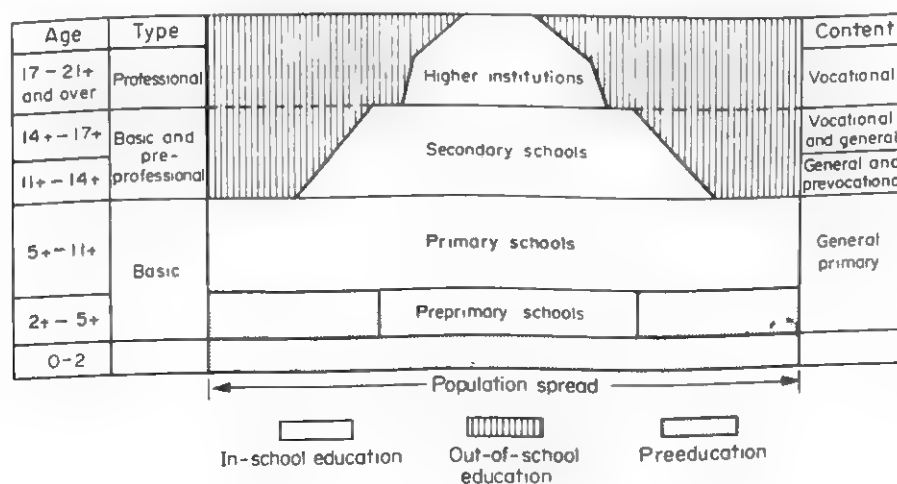


Figure 1
The new structure of the educational system

1.1 Educational Goals

Until the advent of military rule, the role of the educational system was seen solely in terms of personnel production. The trend toward a broadening of the character of Nigerian schools became pronounced after the civil war, beginning from the exsecessionist territories. The trend culminated in the issue of the first National Policy on Education in 1977 which, among other things, formally assigned the role of political socializer to the school system.

Nigeria's philosophy of education "is based on the integration of the individual into a sound and effective citizen and equal educational opportunities for all citizens of the nation at the primary, secondary, and tertiary levels, both inside and outside the formal school system". The philosophy is operationally linked with the aims and objectives of: (a) inculcating national consciousness and national unity among the students; (b) inculcating the right type of values and attitudes for the survival of the individual and the Nigerian society; (c) the training of the mind in the understanding of the world around; and (d) the acquisition of appropriate skills, abilities, and competencies, both mental and physical, as equipment for the individual to live in and contribute to the development of his or her society.

1.2 Growth of Enrolment

There is visible evidence that massive expansion has taken place in the education sector since the 1960s. The expansion has affected all educational levels. Figures 2 and 3 indicate that the growth in enrolment has been phenomenal over the three decades 1950–80. Primary school enrolment increased from 1,002,533 in 1951 to 2,803,836 in 1961, an increase of 179.7 percent; it increased by 38.9 percent between 1961 and 1971; and

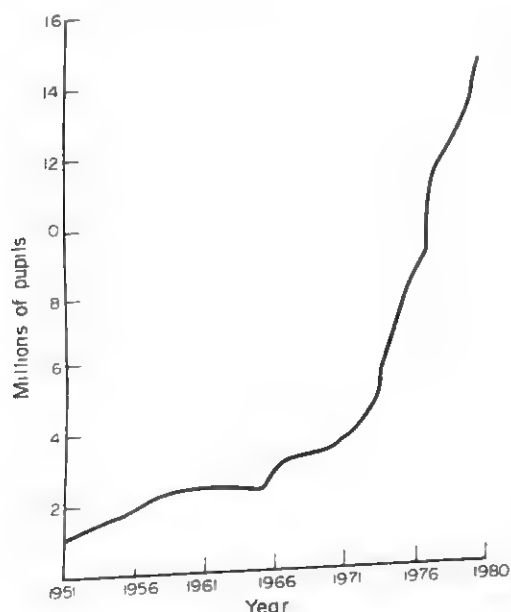


Figure 2
Primary-school enrolment 1951–80

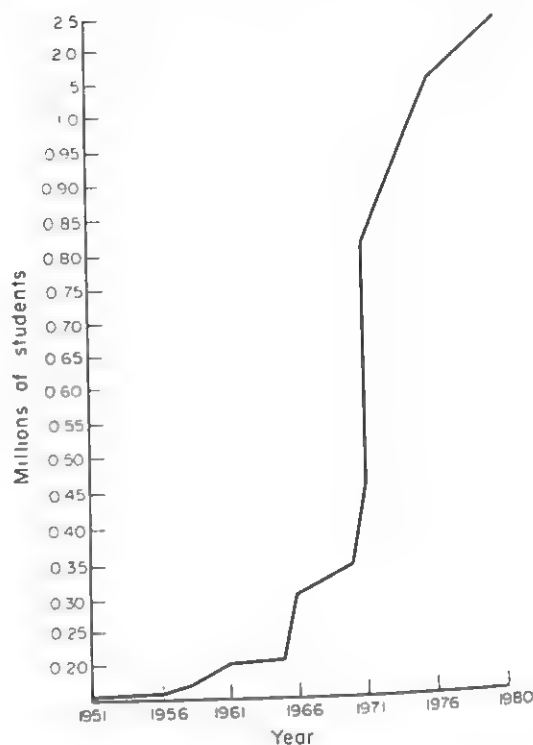


Figure 3
Secondary-school enrolment 1951–80

rose from 3,894,539 in 1971 to 14,977,551 in 1980, a huge increase of 285.1 percent over a decade. Secondary education also expanded tremendously during the same period. Enrolment in secondary schools rose from 25,620 in 1951 to 174,261 in 1961, a rise of 581.2 percent; it increased from 174,261 in 1961 to 358,516 in 1971, a rise of 105.7 percent; and rose from 358,516 in 1971 to 2,395,991 in 1980, another huge increase of 568.3 percent in one decade.

Growth in enrolment in the universities has been equally impressive. It has increased from a low of 338 in 1951 to 63,120 in 1980. Enrolment in the universities increased by 825.4 percent between 1951 and 1961, by 446.5 percent between 1961 and 1971, and by 269.3 percent between 1971 and 1980. This growth in enrolment has been accompanied by a rapid increase in the number of universities. In 1950, there was only one university college. The number of universities rose to five in 1962, 13 by 1975, and 18 federal universities including five technical universities by 1981, while the federal government has approved plans for the establishment of three additional conventional universities and an open university. A few states in the south had also invoked their constitutional power to establish state universities.

The astounding growth in the educational effort between 1950 and 1980 has a direct linkage with political development. The political evolution from full dependency to independence began in 1952 with the first elected regional governments in which Nigerians for the

first time set their own priorities and managed their own affairs albeit under the watchful eyes of the colonial governors. Educational development ranked very high among the priorities of these semi-independent governments. The country achieved full sovereignty in 1960 and the rulers continued their policy of rapid expansion of education.

Despite the astonishing increases in enrolments reported earlier, the educational base remained relatively small, even in the 1970s. By 1971, the primary-school enrolment ratio for the nation was 33 percent of the eligible age group; at the secondary-school level the ratio was only about 6.3 percent. The lack of acceptable census data at the time of writing makes it impossible to estimate accurate participation rates in Nigerian education in 1980. An informed guess would be that because of the Universal Primary Education Programme launched nationally in 1976 and the Universal Secondary Education Programme introduced in the south-western states in 1979, the national participation rate in primary education would by now have risen to about 60 percent of eligible age groups, while participation rate in five-year secondary education would be about 15 percent during the 1980-81 school year. The implementation committee for the National Policy on Education estimated that the country will achieve 100 percent participation rate in primary education by the 1984-85 school year and 40 percent at the junior secondary level by the same year.

1.3 Wastage Rates

No national study of wastage rates in Nigerian education exists, nor has there been any effort to monitor this problem continuously in any part of the federation. The available evidence suggests however that the wastage rate is high in primary and secondary education while it is almost nonexistent in tertiary institutions. An International Labour Organization study in the early 1960s published in March 1967 estimated that 60 percent of children who entered the first grade in the old Western Region dropped out before completing the primary-education programme while the dropout rate in schools located in small villages was 84.9 percent (Nigeria 1977b). In 1977 the national dropout rate in the lower primary grades was estimated to be 27 percent (Nigeria 1977b, p. 53). A case study of Lagos primary schools showed that 30 to 34 percent of the pupils dropped out between 1966 and 1968 while the rates for secondary schools in the metropolitan area were 40 to 50 percent between 1970 and 1973 (Adesina 1975).

1.4 Educational Imbalance

In spite of the rosy picture of expansion in enrolment at all levels of education, the system has many imbalances. The most prominent and controversial one is the imbalance in educational achievement between the northern and southern states. In 1960 there were 2.913 million children enrolled in Nigerian primary schools of which only 282,849 or 9.7 percent were in northern Nigerian

schools; in 1970, 3.52 million children were enrolled in the primary schools of which only 16.6 percent were in the more populous north. The most sanguine estimates for 1980 are those of the implementation committee for the National Policy on Education which put the northern share of primary-school enrolment at about 48 percent and that of junior-secondary-school enrolment at 27.4 percent.

The imbalance in enrolment has its origin in the political history of the country. Formal education of the Western type was introduced into southern Nigeria by Christian missionaries in the middle of the nineteenth century as a tool in their proselytizing work. It was enthusiastically received by southerners who also built their own schools by communal efforts to supplement the missionary schools. On the other hand, activities of Christian missionaries were severely restricted in the north by the colonial administration on the insistence of the Moslem emirs who strongly objected to the proselytizing objectives of the Christian missionaries. Thus, only a few schools were operated by government in the Moslem areas of northern Nigeria. The result was that the less populous south achieved an early educational lead which is becoming increasingly difficult to bridge. The educational and political consequences of this contradictory policy are still being grappled with today.

1.5 Nonformal Education

The Nigerian examples of nonformal education include the extramural classes at preuniversity and enrichment levels run by universities in various centres all over the country. Adult education programmes feature prominently in the University of Ibadan's extramural curricula. The University of Lagos has also sponsored and supported the Correspondence and Open Studies Unit operating as a "department" of the university. For some years the University of Ife organized evening degree courses in a style and manner close to that of the United Kingdom's Open University system. In a similar way Ahmadu Bello University has offered wide ranging extramural courses at many educational levels.

There are other nonformal education institutions such as local and overseas correspondence colleges with branches throughout Nigeria. They provide tuition for their students preparing for one form of examination or another. They charge moderate fees. These correspondence colleges also provide courses that are related to students' jobs thereby enhancing the chances for increased productivity.

2. Administrative and Supervisory Structure of Education

Education at all levels which is on the concurrent list in the 1979 Constitution is administered and controlled by the federal and the state governments through their Ministries of Education.

Administration and control of education by the federal government is exercised through the Federal Ministry of Education headed by a Minister of Education. Under the minister are general administrators, professional educators, and supporting staff who assist the minister in policy making and implementation. The head of the civil servants in the ministry is the permanent secretary who is the chief adviser to the minister and is responsible to him for the day-to-day administration of the ministry and the institutions under it.

The Federal Ministry of Education administers two important bodies: the National Council on Education (NCE) and the Joint Consultative Committee on Education (JCC). The National Council on Education is a council of the minister and the state commissioners of education. It meets in rotation at the federal and state capitals to consider current issues on education and make recommendations to all the governments of the federation. The Joint Consultative Committee on Education is a committee of the professional educators of the Federal and the State Ministries of Education, representatives of the university faculties or institutes of education, the Nigeria Union of Teachers, and the National Manpower Board. The committee deliberates on the professional aspects of education such as quality in education, mobility of teachers and pupils and the education, remuneration, and discipline of teachers (Taiwo 1980).

The Federal Ministry of Education has four main divisions, one of which is under a secretary for education and each of the three others under a director of education all responsible directly to the permanent secretary. The divisions are administration and policy, schools and educational services, higher education, and the inspectorate.

The pattern of administration of education in a state is similar to that of the federal government. There is a Ministry of Education the head of which is a commissioner of education. Under the commissioner are the civil servants who carry out the administrative and professional duties of the ministry. The head of the civil servants in the ministry is the permanent secretary who is the chief adviser to the commissioner and is responsible to him for the day-to-day administration of education in the state.

Each state operates under its own education law. Hence, it is impossible to have absolute uniformity in the structure of administration and control of education in all states. Nevertheless, there is considerable uniformity in the structure of the system, in the qualification of teachers, the hierarchy of ministry officials and the general objectives of education (Nigeria 1977a).

The education law of each state and the regulations based on it govern the management of education in the state. The provisions of the law cover matters such as the delegation of functions by the commissioner, the establishment of advisory and other boards and commissions, the responsibilities of the local governments in connection with education, the establishment and

composition of the education committee of a local government council, etc. The law also covers the curriculum of public schools, the powers of the commissioner in the establishment of schools, management of public and private educational institutions, teachers and their appointment, remuneration and discipline, inspection of institutions, financial provision, ancillary services, etc.

3. Finance

The picture is not clear as to how much has been spent on education since the 1950s because of paucity of data. However, Ndagi (1980) has estimated that the federal government's expenditure on education rose from 20.19 million naira in 1968–69 financial year to 867.36 million naira during the 1977–78 financial year, a 43-fold increase in 11 years. In fiscal year 1968–69, federal expenditure on education was 8.3 percent of the recurrent vote while defence was allocated 16.3 percent. By fiscal year 1977–78, education had achieved near-parity with defence with allocations of 25.5 and 26.5 percent respectively. Total federal and state expenditures on education increased from 0.64 percent of the GDP in 1970–71 to 2.85 percent of the GDP in 1976–77 at constant 1974–75 prices, an increase of 445 percent over a period of seven years.

Prior to 1979, the tuition cost of education was shared among government, voluntary agencies, and parents. By administrative fiat, the military government abolished tuition fees at all levels of education in 1979.

The government pays the salaries and emoluments of administrative, teaching, and supportive staff in all educational institutions. Students in secondary and tertiary institutions pay for their board and lodging in all the states except the southwestern states where boarding facilities are being phased out in secondary schools. Even in institutions where students pay for board and lodging they pay subsidized rates as boarding fees are pegged by the government concerned. The government bears the full cost of capital development where ownership of schools has been completely secularized while it gives grants-in-aid determined by it to voluntary agencies whose schools have been approved.

Students in universities, polytechnics and colleges of education receive financial aid for board and lodging from federal and state governments. The aid ranges from the automatic bursary award for teacher education which is financed and administered by the federal government to other financial aid programmes financed and administered by state governments for people living in their areas of jurisdiction.

4. Educational Personnel

There are two main categories of teaching personnel in Nigeria: trained and untrained teachers. The untrained

teachers are those who received training in basic school subjects without any formal exposure to teacher education while the trained teachers, in addition to their training in basic school subjects, received training in the art of teaching.

The trained teachers are graded according to the amount of training they have received. Lowest in the hierarchy are the Grade III teachers. These are teachers who have successfully completed a two-year post-primary course leading to the award of a Teachers Grade III certificate. This level of training has been phased out of the educational system but those who have previously obtained the certificate still teach in the primary schools. Grade III teachers undergo a two-year teacher-training course leading to the award of Teachers Grade II Certificate. Hence, there are currently very few Grade III teachers in the educational system.

Grade II teachers form the bulk of the teaching personnel in the primary schools and the Teachers Grade II Certificate is officially prescribed as the minimum qualification for primary-school teaching. The teachers' colleges offer a five-year course leading to the award of a Teachers Grade II Certificate for First School Leaving Certificate holders and a three-year course for those who hold a Secondary Modern School Certificate or the equivalent.

Grade I teachers are the products of the two-year rural science teacher-training programmes which upgrade the Grade II teachers to specialize in the teaching of rural science. They include experienced Grade II teachers who have studied privately and passed two General Certificate of Education (GCE) Advanced (A') level subjects. Some universities in Nigeria also offer a one-year Associateship Diploma in Education course for Grade II teachers with a minimum of five years' teaching experience. The Associateship Diploma in Education has the status of a Teacher Grade I Certificate.

Secondary-school teachers are holders of the Nigeria Certificate of Education and holders of university degrees. The Nigeria Certificate of Education was originally the idea of the Ashby Commission which in 1960 recommended the training of highly qualified non-degree-holding teachers in special colleges which should be affiliated with university institutes of education. These special colleges are known as the advanced teachers' colleges or colleges of education which offer a three-year postsecondary course for West African School Certificate (WASC) holders and Grade II teachers. The universities offer degree programmes in education leading to a B.Ed. or equivalent degree. The well-qualified teachers without university degrees teach the lower classes, while the degree holders teach in the higher classes of secondary schools.

Shortages have characterized the supply of teachers at all levels of education, particularly during the period of the most rapid expansion in the late 1970s (Taiwo 1980). The projection for the Universal Primary Education programme in 1976 was 2.3 million children in the first grade out of a total primary-school enrolment

of 7.4 million that year. Enrolment was expected to rise to 14.1 million in 1982. An additional 60,000 teachers were required, rising to 281,190 additional teachers in 1982. Of the projected 60,000 additional teachers, only 48,780 or 81.3 percent had been trained, leaving a shortfall of 18.7 percent. In 1977, of the 195,750 teachers serving in primary schools, 35.8 percent were unqualified or untrained. In 1975, it was estimated that the 13 universities needed 3,000 additional lecturers of whom only one-third could be recruited locally.

It should be noted that official estimates of shortages in the supply of teachers have tended to be conservative. For example, actual enrolment of first graders in 1976 was 3 million as opposed to an enrolment of 2.3 million that had been estimated. At the 1:40 teacher-pupil ratio used for planning purposes, the actual number of additional teachers required was 75,000 instead of the projected 60,000.

5. Curricula, Teaching Methodology, and Examinations

The curriculum and teaching methods in an educational system are determined by the agencies that control the examination system (Fafunwa 1974). The curriculum of Nigerian primary education consists of arithmetic, reading and writing in English and a local language, civics, nature study, history, geography, and arts and crafts. In practice, however, English and arithmetic virtually monopolize the attention of teachers and pupils because these are the two subjects considered important in the First School Leaving Certificate examinations conducted by the various state Ministries of Education, and the West African Examinations Council (WAEC) which conducts the national common entrance examinations for selection into secondary schools. Rote learning is predominant mainly because the examinations emphasize the power of recall over and above the understanding of concepts and application of knowledge.

Advancement from one grade to a higher one at each level of education is determined entirely by internal examinations conducted by the teaching staff of each institution. The West African Education Council is responsible for the national entrance examination for selection into secondary schools although since 1980 the five southwestern states have abolished entrance examinations into secondary schools in order to achieve 100 percent transition rate from primary to secondary education. The council's common entrance examination consists of tests of verbal and numerical aptitudes as well as achievements in verbal and numerical learning. It is also responsible for the West African School Certificate examinations, the last examinations in the basic secondary-education programme in Anglophone West Africa. It also conducts the Higher School Certificate Examinations for the finalists of the two-year pre-university course following the WASC.

6. Educational Research

Educational research in Nigeria is conducted almost entirely by the faculties and institutes of education in the universities. With a few exceptions, small-scale research projects by individual academics predominate. Perhaps the only large-scale research projects are the Ford Foundation-financed Yoruba Primary Project at the University of Ife which explored the general hypothesis that instruction in the mother tongue leads to better learning of mathematics, science, and other subjects by Nigerian children; the ongoing study of *Exceptional Children in Selected Primary Schools in Nigeria* at the University of Ife which is being funded by UNICEF; an ongoing research project on *The Situations of Children in Nigeria* at the University of Lagos which is being financed by the Nigeria Educational Research Council (NERC); an ongoing study of the *Value and Attitudinal Outcomes of Schooling* based at the University of Ilorin with funding by the Ford Foundation; and an ongoing survey of facilities and personnel resources for science education in Nigeria based at the University of Ibadan and financed by the Federal Ministry of Science and Technology.

The small-scale research projects are either financed from the meagre resources of the universities employing the researchers or by the researchers themselves. This explains the extremely narrow scope and depth of most of these studies and their general lack of relevance to policy formulation and implementation.

The Nigeria Educational Research Council (NERC) has existed since 1965 but its impact on educational research is yet to be felt. Much of its resources and the energy of its small staff have been devoted to organizing itself, and promoting the writing and publication of conference reports and textbooks for primary and secondary schools as well as for teachers' colleges. With its publishing programme well under way and a number of its textbooks and reports already in use, the NERC has begun to recruit a team of researchers in education, language arts, mathematics, science, and social studies to develop its research priorities and funding policies, to identify research problems of national significance, and to farm out such studies to faculties and institutes of education.

Theses and dissertations for doctoral and master's degrees constitute another source of research effort. Graduate students work under the supervision of their teachers and the research reports are deposited with their university libraries after the completion of their studies. No medium exists for the dissemination of information on such ongoing research or their results. However, the NERC and the Institute of Education at the University of Ibadan had recently taken the initiative to sponsor such media.

Dissemination of educational research findings in Nigeria is weak. A few journals based in faculties or institutes of education publish contributions from researchers in Nigeria and other countries. Examples

of such journals are the *West African Journal of Education* and the *African Journal of Educational Research* based at the University of Ibadan, the *Lagos Education Review* at the University of Lagos, the *Ilorin Journal of Education* at the University of Ilorin, the *Journal of Education in Africa* at Bayero University, and the *Nigeria Educational Forum* at Ahmadu Bello University. A common affliction of these journals is lack of adequate funding to ensure regular publication. The resultant effect is that neither the contributors nor the editors themselves know when the next issue is to be expected. It is to be noted that because of the lack of regularity in the publication of these journals, among other reasons, a high proportion of the best work done by Nigerian researchers is sent out to foreign journals for faster processing and publication.

7. Problems and Prospects

A realistic prognosis of the future of Nigerian education must identify the crises of quantity and quality as the major problems in the next two decades. With the national introduction of the free Universal Primary Education scheme in 1976, the expansion of education at all levels became self-escalating. A large percentage of those completing each level of education are expected to demand education at the next higher level. This has profound implications for finance and the provision of instructional resources such as adequate numbers of qualified teachers, adequate classrooms, furniture, laboratories, libraries, etc. The extent to which these instructional resources are available will determine the attainable quality of education. Yet Nigeria already spends so much of its budget on education that it is not likely that the proportion of the budget allocated to education can increase significantly. How to manage the education system that is expanding exponentially with fast diminishing resources per student without a substantial and irreparable loss in quality of education remains the greatest challenge that Nigerian educators have to confront in the next two decades.

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Norway

A. O. Telhaug

Covering 324,000 square kilometres (125,000 square miles), Norway is a comparatively large area of land, characterized chiefly by its great length (2,650 kilometres). Many fjords stretch far inland, making the country awkward to administer and communications difficult despite the very considerable sums invested in the building of roads and railways.

From the middle of the previous century onwards, the population has become increasingly concentrated in the densely populated areas. But, in spite of this, the country is still sparsely populated and there are numerous small local communities. There is a total population of about four million, resulting in a density of only 13 persons per square kilometre, the lowest in Europe apart from Iceland.

In the northernmost area lives an ethnic minority, the Lapps, who have retained much of their distinctive culture and who speak a language incomprehensible to the majority of the population. There are only a small number of aliens (foreign workers). In 1980, the number of foreign citizens from non-European countries was no more than 30,000. The fact that just over 90 percent of the population belongs to the Lutheran State Church underlines the extreme cultural homogeneity of Norwegian society which has a common history, a common language, and, to a great extent, a common religion.

As in most industrialized countries, the structure of the working population has changed considerably in the period since the Second World War. Employment in the primary occupations has decreased greatly. About 26 percent of the active working population were in this sector in 1950, but the proportion had sunk to 8 percent by 1980. At the end of the 1970s, the proportion of

the population working in industry was about 30 percent. A large expansion in Norway, as in many other countries, has occurred in the service occupations. In 1950, approximately 37 percent of the population were employed in this sector and over the 30 years to 1980 the proportion increased to about 60 percent.

Norway has never had a privileged upper class in the European sense of the term and during the past century the differences in actual income for different groups of employees have lessened considerably. Today, therefore, Norway is a country with a noticeable lack of class distinction.

Norway has a constitutional and hereditary monarchy based on the constitution of 1814. At the national level, decisive political power is held by parliament, Storting. The composition of this assembly is decided by direct elections every fourth year and in the present parliament seven different parties are represented.

In the 1981 general election, the conservative party, Høyre, came to power and formed a minority government. Before that the labour party, Arbeiderpartiet, had been in power since 1935 except for two short breaks. While reforming Norwegian society the labour party stressed the strengthening of democracy and aimed at full employment, continued economic growth, and the provision of more equal conditions for different social groups. There has been a more or less general agreement about these aims and the authorities are well on the way to realizing them. Democracy has been improved by the increased participation of workers in economic life; there is little unemployment by international standards; wealth has increased so that Norway is now considered to be one of the world's wealthiest

countries; and there has been an actual levelling out of living conditions and opportunities for individual members of society.

Social conditions, particularly the increase in wealth, scattered population, cultural homogeneity, and ideas of democracy and equality have all contributed to the distinctive Norwegian educational policies and school system. Although the social democrats have led the way in forming educational policies since the 1930s, cultural unity has contributed to a high level of agreement about the development of the system. The desire to provide the same opportunities for education for every citizen has long been a central motive in educational policy. The authorities have tried to realize this aim by keeping a high degree of unity in the structure of the schools and by giving considerable economic assistance from public funds for school building and for loans or scholarships for students. The unity of the educational system is evident in a number of spheres.

Almost all of the schools are publicly owned. The principle of comprehensive schools is now the major political aim, that is, to provide schooling whereby all pupils up to the age of 19 are educated alongside one another and under the same administration. Within the various types of school, the same aim of providing unity is apparent and the authorities are well on the way to abolishing differentiation in school organization. The schools are on the whole small ones, with an average of 150 pupils in each primary school (compared, for example, to an average of 350 in Denmark and of 500 in the United States). The number of pupils in each class is also low, with an average pupil/teacher ratio of 17:1 in primary schools.

1. Goals of the Educational System

In recent Norwegian educational policy, the authorities have based the expansion of the school system on the needs of the individual and of society. The educational system has to provide for positive development of the personality of each individual while creating cultural, political, and economic growth for society. This means that the educational system may be justified on the basis of the cultural requirements it has to fulfil (encouraging Christianity and passing on the cultural heritage), the requirements of the nation's political system (securing and developing democracy), and on the material aims which must be pursued (labour requirements, encouraging economic growth, training for jobs, etc.).

As to the more concrete tasks and functions of the schools, the following tendencies have been apparent since the middle of this century. The school system has had two clear main aims: to provide both instruction and upbringing (socialization). In practice, there is no doubt that instruction has dominated. But, because homes and local communities have to a great extent failed as educational institutions, the authorities have given the schools greater responsibility for upbringing. In recent years, the authorities have laid greater emphasis

on the schools as service institutions: places for looking after children and adolescents and meeting places for local communities. Thus, the previous over-riding importance of teaching in the schools has been reduced, a development conservatives have protested against, and the present government (1981) is renewing the attempt to strengthen the position of instruction.

2. Structure and Size of the Educational Effort

The basic structure of the formal educational system at the beginning of the 1980s is shown in Fig. 1. This shows how the system now consists basically of four clearly defined levels.

Nurseries for children under seven form the first level of the system. These institutions aim at providing "educationally adjusted activity" for children below school age. In the 1940s, the nurseries only had room for 2,000–3,000 children, about 1 percent of the under-sevens, but in 1980 they had room for about 75,000 children, 18.5 percent of the age group. The nurseries are best developed in the towns.

The compulsory schools (*grunnskolen*) form the second level of the system. They provide education for nine years and a voluntary tenth year, divided into six

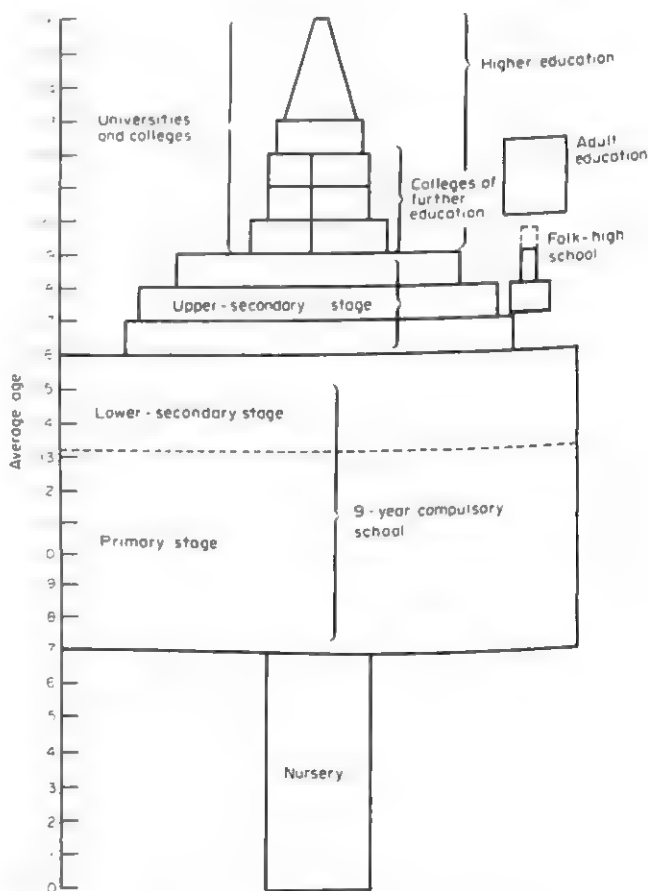


Figure 1
Basic structure of the educational system, 1981

years at the primary stage and three years at the lower secondary stage. At the beginning of the 1980s, the authorities and educators started work on integrating even handicapped children into the normal compulsory school. Except for special arrangements which may be made for handicapped children, there is no ability grouping of pupils in these schools. The only differentiation made in the organization of courses is in elective subjects which account for 11–18 percent of the total number of lessons at the lower-secondary stage.

In 1980, about 80 percent of final-year pupils of lower-secondary school pupils went on to upper-secondary schools, the third level of the system, which provide a three-year education for young people aged 16–19 years. About 70 percent of the age group continued to the second class and about 50 percent completed the third year. Though the upper-secondary schools were of many types up to the 1970s, and had a wide variety—in length and structure of courses—they have since been reorganized into a single system with most schools coordinated as areas of study in a common structure. There are altogether nine different areas of study at this level: academic subjects, arts and crafts, fishery and nautical subjects, physical education, mercantile and commercial subjects, domestic science, handicrafts and industrial subjects, social and health subjects, and agriculture. Most of these areas of study offer a number of different courses within which the subjects to be studied are divided into three types: (a) courses for all students in general subjects or obligatory essential subjects; (b) subjects related to a particular area of study or occupation; and (c) elective subjects.

In 1980, some 60–70 percent of the pupils completing upper-secondary school continued to the fourth level of the system—higher education. Twenty-four percent of the age group 20–24 years were receiving education in 1977. Admission to this level of studies was for a long time limited to students who had followed academic courses at the upper-secondary school, but now the courses in mercantile and commercial subjects also qualify students for higher education. Students who have taken other courses are required to take some extra courses to gain admission to higher education. The fourth educational level is organized into two main sections, one being the regional and other colleges and the other the universities and academic colleges. The institutions in the first category are primarily engaged in teaching and to a lesser degree in research. They provide a general education comparable to university education up to a first degree, but their courses last for from two to three years and are aimed at particular occupations or vocations. The universities and academic colleges are responsible for providing both teaching and research facilities. The time spent studying at these is longer, usually four to six years in all.

In addition to the types of school and college included in the basic system, there are boarding schools, known as folk high schools, some of which are privately owned and provide a higher general education for young people

over 17. Adult education provides courses with or without final examinations. Some of the teaching in this area is by correspondence or broadcasting.

The number of pupils in most types of school began to increase noticeably towards the end of the 1950s and continued to increase very considerably right up to the end of the 1970s, when this trend began to slow down in many types of school. This can be seen, for example, in the number of pupils attending upper-secondary schools, which increased from about 60,000 in 1955 to 180,000 in 1980; at the universities, the number of students increased from about 5,500 in 1955 to approximately 40,000 in 1980. Table 1 presents a summary of the general development of the number of pupils and students in the whole educational system, apart from the nursery and adult education sectors, from 1959–60 to 1980–81.

From Table 1 it can be seen that the total number of students has increased by about 50,000 for every five years between 1960 and 1980. At the beginning of the 1980s, the total number became stable at around 850,000 and, if nursery schools and teachers are included, about one million people, a quarter of the population of Norway, have schools as their place of work.

Recruitment to upper-secondary schools and to higher education still shows a certain amount of inequality. Today, as in the past, the tendency to want education is stronger among the middle class than among the working class, in towns than in the country, in boys than in girls, and in the majority population than in the minority groups. But there has been a decrease in the gap between all these groups in the period since the war.

3. Finance

In the schools and colleges, after the end of compulsory education, students have to pay for their own books and materials. However, the schools do not charge tuition fees and the state provides loans and sometimes scholarships to students both at the upper-secondary stage and in higher education. Private schools have to cover their own costs but most of them have the greater part of their running expenses paid by the state, and school fees are low.

These facts indicate that Norwegian society gives high priority to schools when allocating public funds. This

Table 1
Total numbers of students (excluding those in nursery and adult education) 1959/60–1980/81

Year	Number
1959–60	625,000
1965–66	697,000
1970–71	752,000
1975–76	807,000
1980–81	850,000

impression is further strengthened by data on the financing of the educational system. Grants for schools taken as a percentage of the gross national product have increased from 2 percent in 1945 to 7-8 percent in 1980. The amount spent on each pupil in compulsory schooling has doubled since the war. Throughout the 1970s, about 15 percent of all public spending was on education. These figures put Norway amongst the countries with the highest per pupil expenditure in the world.

4. Supply of Personnel

Teachers for normal teaching in classes form the main group of educational staff in the school system. However, as the schools' tasks and functions have expanded in the postwar years, a number of specialist jobs have evolved. Many teachers have obtained special qualifications in order to be able to help handicapped pupils who are being integrated into the normal schools. Both lower- and upper-secondary schools now have counsellors who are appointed to help pupils with any academic, personal, or social problems. Some lower-secondary schools also have teachers who are social workers and assist pupils who have a difficult home background.

Compulsory schools are required to provide an educational advisory service and each local council must also provide an administrative organizer for the compulsory schools in the district. Today, there is no lack of qualified people to fill the various posts in the school system.

The training of the various types of personnel is provided both by colleges and by universities. The length of training is three years for the preschool and primary-school stages, four for the lower-secondary stage, and six for the academic sector of the upper-secondary stage. The training of teachers for vocational and occupational subjects is of shorter duration than training for those teaching the more theoretical subjects. Instruction is given both in subject content and in teaching techniques, the latter usually combined with teaching practice. In the 1960s and 1970s, learning how to teach was given more emphasis in the training of nursery and primary teachers and today the universities are also trying to encourage more educational theory and practice.

5. Curriculum Development and Teaching Methodology

Until the 1970s, teaching in the compulsory and secondary schools was regulated by curriculum plans drawn up centrally and which provided detailed regulations for the curriculum in each subject. But towards the end of the 1960s, the idea of delegation gained ground and led to the rewriting of the plans with the intention of giving

both the individual teacher and the pupils greater influence in the choice of subject matter. The plans were therefore rewritten as outline plans. Thus, the suggestions for the content of each subject were no longer considered binding for each class but were to be seen as guidelines. The increased freedom gained by teachers and pupils in this way has been used only to a certain extent; one reason is that the present requirements for evaluation and examinations considerably limit the actual choice for an individual class.

In their views on teaching and study methods the recommendations made by Norwegian curriculum plans clearly show the influence of the American and European so-called "activity method". They recommend a great deal of individual teaching, group work, and integration of the different subject matters. However, these recommendations are only implemented to a certain degree. Several recent surveys show that most Norwegian teachers conduct classes as units and still see their role as mainly that of an instructor and inspector. At some schools and colleges, especially in teacher-training colleges, attempts are being made to change this and to emphasize instruction in concrete projects which are aimed at solving problems and partly organized by the participants.

6. Educational Research

There have been considerable changes in Norwegian educational research over the past few decades, particularly since 1970, when the Department of Education began to grant funding for a more applied type of educational research. As these grants have increased, more and more different bodies have taken up school and educational problems as subjects for research. For a long time educationalists and psychologists were almost the only people engaged in educational research, but government grants have now enabled sociologists, architects, engineers, political scientists, economists, and philologists also to undertake research. While research immediately after the war was limited to three or four institutions, mainly universities, now more than 30 institutions are engaged in educational research. As a result psychological research no longer occupies the dominant position it held from the 1930s to the 1950s. The main stress today has shifted towards didactic problems and to a lesser extent towards sociological problems.

7. Major Problems

The conservative wing in Norwegian education circles has, for many years, claimed that levels of achievement are decreasing in Norwegian schools and the conservative government has made it its aim to try to restore the standard of learning in the various subject matters at all levels. The Left and the progressive wing in

education circles are more concerned with the fact that many pupils, particularly at lower-secondary schools, do not seem to find school life meaningful or relevant.

Regardless of political views or the changing consensus on education, there is general agreement that all efforts must be made to provide equal educational opportunities for all, and to bring actual school work in line with the recommendations of the curriculum plans. However, the gravest problems in the immediate future are related to the fact that the working atmosphere at the lower-secondary stage is unsatisfactory. Many of the pupils lose motivation for school work and there seems to be an increase in aggressive behaviour which causes discipline problems. There is also an increase in crime and drug abuse among young people. For these and other reasons, it is generally agreed that the schools and the adolescents have become too isolated from the rest of society, from economic life, and the adult world. In an effort to solve these problems constructively Norwegian educational policy lays great stress on linking the school more closely with working life and the local community. An attempt is being made to give pupils greater responsibility and more duties. To an increasing extent, pupils at lower-, and sometimes upper-, secondary schools are being released from ordinary school

and sent to places of work instead. The dominant theme for discussion and research in the field of education in Norway today is the relationship between education and local community.

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Oman

S. J. Mohammed

The Sultanate of Oman is the second-largest state in the Arabian peninsula. It has a territory of about 300,000 square kilometres (115,830 square miles), a population of about 1.5 million with an annual population growth of 3 percent, and a per capita gross domestic product (GDP) of nearly US\$6,000. It has a long history. There is evidence of human settlement in the Stone Age and of commercial activity in the third millennium BC. The southern province of Dhofar was the base of the original civilizations of the Sabeans and Himyarites, and the port of Muscat, in the seventh to fifteenth centuries, was the launching point for ships spreading the message of Islam as far afield as Africa and China. The geography varies from the deserts of the Empty Quarter to mineral-rich mountain ranges, fertile valleys, and a long coastline with an abundance of edible fish. The recent discovery of oil and gas are seen as a bonus and, though in the short term Oman is dependent on oil revenues for its development, these are small in comparison with those of its neighbours.

Education in Oman can be said to have started in 1970, because until that time there were only three primary schools for males. The total number of students then was 909 out of a population of 1.5 million. These three schools were in the three main towns of Muscat (the capital), Muttrah, and Salalah.

1. Structure and Size of the Educational System

The educational system consists of three cycles: elementary with six grades for those between the ages of 6 and 11, preparatory with three grades for those between the ages of 12 and 14, and secondary with three grades for those between the ages of 15 and 17. After the preparatory cycle, students have the option of entering vocational training institutes, which are under the auspices of the Ministry of Social Affairs and Labour and consist of three grades of studying and training. For the secondary general cycle, students are divided into art and science streams for the second and third grades.

Table 1 presents the number of schools and students by region in 1985-86. By 1985-86, the number of schools had risen to 588, of which 326 are primary schools, 213 preparatory or primary preparatory schools, and 49 secondary or preparatory secondary schools. (Many schools combine the grades of two cycles.)

Some of these schools are for males (222), some are for females (192), and the remainder are mixed (174). In addition to these schools, there was in 1985-86 a preparatory school for females with a special emphasis on home economics and seven preparatory religious institutes at the mosques. At the secondary level, there was also an industrial school, an Islamic institute for

Table 1
Number of classes and general schools (not including institutes), students, and teachers by region 1985-86

Region	No. of classes (and schools)	No. of students by cycle				No. of teachers and auxiliary staff		
		Primary	Preparatory	Secondary	Total	Male	Female	Total
Muscat ^a	1,380 (79)	36,531	8,499	3,091	48,121	1,068	1,059	2,127
Batinah	1,328 (95)	35,693	5,712	1,495	42,900	1,136	788	1,924
Rostaq	779 (73)	20,412	3,188	783	24,383	720	436	1,156
Dakhiliah	918 (75)	23,031	3,706	1,352	28,089	893	478	1,371
Sharqia	568 (46)	13,007	2,701	964	16,672	578	333	911
Wusta	537 (49)	12,070	2,019	489	14,578	549	279	828
Dhahira	773 (69)	17,239	3,658	1,271	22,168	742	426	1,168
Janubia	652 (89)	14,839	2,735	1,089	18,663	694	312	1,006
Musandam	134 (13)	2,630	510	200	3,340	153	85	238
Total	7,069 (588)	175,452	32,728	10,734	218,914	6,533	4,196	10,729

^a Capital

males, an agricultural college for males, and two commercial schools, one for males and the other for females; and at the postsecondary level, three teacher-training colleges offering two-year courses, two for males and one for females and seven teacher-training classes offering three-year courses. These teacher-training classes are what is left of the old system. The total number of schools and institutes established by the Ministry of Education and Youth Affairs by 1985-86 are, therefore, 604, which provide education for 221,543 students, of whom 93,118 are females. The total number of teachers and auxiliary staff employed in these schools and institutes are 11,140, of whom 4,304 are females, compared to a total of 30 male teachers only in 1969-70.

In 1985-86, the number of students in primary, preparatory, and secondary cycles in the schools and institutes which came under the auspices of the Ministry of Education and Youth Affairs were 175,452, 33,576, and 12,019 respectively, that is, 79.4 percent, 15.2 percent, and 5.4 percent respectively of the total number of the students. In contrast, in 1975-76 (just before the first and second five-year plans, 1976-80 and 1981-85), the number of students in primary, preparatory, and secondary cycles were 54,457, 1,095, and 200 respectively, that is, 97.6 percent, 2 percent, and 0.4 percent respectively of the total number of students. This shows a lessening gap between the numbers of the students in the three cycles (and the percentages of the preparatory

and the secondary cycles increased from 2.4 percent to 20.6 percent between 1975-76 and 1985-86).

The number of female students increased from 1,136 in 1970-71 to 93,118 in 1985-86. The percentage of female students increased from 16.4 percent of the total number of students in 1970-71 to 42 percent of the total in 1985-86.

The Ministry of Education and Youth Affairs has opened two schools for deaf and dumb students. Many blind and mentally retarded students are sent abroad to special institutes in the Arab world, particularly to those in Saudi Arabia, Bahrain, Kuwait, and Egypt. There is also a project for the building of an institute for the blind in Oman.

The Ministry of Education and Youth Affairs offers scholarships to graduates from secondary schools, so that they can continue their studies abroad. The total number of students studying abroad was 2,316 (17 percent being females) in 1984-85. Students study in different countries, but mainly in Egypt, Jordan, Morocco, Saudi Arabia, the United Kingdom, and the United States. The most popular subjects are commerce and administration, engineering, arts, economics and political science, law, science, and medicine.

Sultan Qaboos University, opened in September 1986, consists of five faculties—medicine, engineering, science, agriculture, and education and Islamic sciences. There will also be a research centre for agriculture, which will be under the auspices of the faculty of

agriculture. Two more centres will be established, one for educational research and one for Islamic research. Enrolment is expected to rise to 3,000 students.

In 1973-74, the ministry established education centres for adults to study in the evenings. The adult system of education is identical to that of daytime students, except that adults are expected to cover the first four years of elementary education in two years (with special books). If they complete the first two years satisfactorily, they continue their studies in parallel to the daytime system (from the fifth grade of the elementary cycle).

In 1984-85, some 11,360 adults (67.9 percent being females) attended classes for the first two years (i.e., elementary grades 1-4). The fifth elementary grade until the secondary cycle was attended by 10,818 adults (36.6 percent being female).

Apart from the educational institutions under the auspices of the Ministry of Education and Youth Affairs, there are a number of other institutions, such as, for example, schools in the private sector. But most private schools for Omani students follow the same curriculum as the ministry schools.

The Ministry of Social Affairs and Labour has a number of vocational-training institutes which offer a three-year course of training and study for those who have completed the preparatory cycle. The following subjects are taught: secretarial studies, accounting, woodwork, metalwork, electricity, and automobile mechanics. In addition, there are some schools which come under other ministries, such as the Health Sciences Institute under the Ministry of Health.

2. Administration and Finance

The Ministry of Education and Youth Affairs is divided into six directorates—youth affairs, scholarships and external relations, education, educational development, administration, and finance. The directorate of education is subdivided into the departments of general education, technical education, adult education and the eradication of illiteracy, examinations, and educational activities; that of educational development into educational planning, curriculum development, educational research (research and experimentation, measurement and evaluation, and educational documentation), teacher training and guidance, and the development of an English language teaching unit.

There are also nine education departments, one in each of the regions into which Oman is divided. These departments implement ministry policy.

The cost of public education is financed by the government. In 1971, expenditure for the Ministry of Education and Youth Affairs was about Rials Omani 1 million (US \$1 = Omani Rial 0.3454); it rose to about Rials Omani 87.6 million in 1985. For the same period, recurrent and capital expenditure increased from less than Rials Omani 0.5 million to nearly Rials Omani 70.5 million and investment expenditure increased from

just over Rials Omani 0.5 million to nearly Rials Omani 17.1 million.

3. Teachers and Teacher Training

Because of the rapid increase in the number of schools throughout Oman, the ministry was obliged to recruit Omani teachers without proper qualifications. In order to upgrade the level of these teachers, the ministry established an inservice training programme offering courses from one to three years depending on the qualifications already obtained by the teachers. Most unqualified Omani teachers attended and completed appropriate inservice training courses.

Those Omani teachers who have obtained a university degree abroad and who teach at preparatory level attend a one-year inservice training course if they graduated from colleges which did not specialize in education.

The Ministry of Education and Youth Affairs has had to recruit a large number of non-Omani teachers, mainly from Egypt, Jordan, and the Sudan because of the rapid increase in the number of students attending schools. The percentage of non-Omani teachers is about 85. In order to increase the number of Omani teachers, the ministry established three teacher-training intermediate colleges, two for males and one for females, during the first and second five-year plans (1976-80 and 1981-85). Two courses are provided: a three-year course (which will eventually be phased out) for those students who have completed the preparatory cycle of school leading to a Teacher Secondary Certificate and a two-year course for those who have obtained the General Secondary Certificate of Education at the end of the secondary cycle leading to a Teaching Certificate. Graduates from both courses are qualified to teach in primary schools.

The third five-year plan (1986-90) provided for more teacher-training intermediate colleges for males and for females, with the aim of gradually increasing the numbers of Omanis on the teaching staff in the primary schools.

4. Curriculum and Examination System

Initially, the curriculum of Qatar schools was used in Oman, but since 1978 an Omani curriculum has been gradually introduced. It was adopted in the first and second grades of elementary cycle and the first grade of preparatory cycle in 1978-79; into the third and fourth grades of elementary cycle and second grade of preparatory cycle in 1979-80; and into the fifth and sixth grades of elementary cycle and the third grade of preparatory cycle in 1980-81; the introduction of the first, second, and third grades of secondary cycle were adopted in 1981-82, 1982-83, and 1983-84 respectively.

The main subjects of the curriculum are Islamic education, Arabic, mathematics, science, social studies, and English as a foreign language. There are workshops in many preparatory schools for such activities as wood-

work and metalwork. Some students do gardening and females study home economics.

Except for the examinations at sixth grade elementary, third grade preparatory, and third grade secondary levels, all examinations are prepared by the schools. The sixth grade elementary examination is prepared by each regional department, while the third grade preparatory and the third grade secondary examinations are national examinations which are prepared by the ministry.

5. Future Development

The third five-year plan (1986-90) includes a provision for more primary, preparatory, and secondary schools

for males and for females. More teacher training intermediate colleges will be opened during the third plan.

Apart from the building of new primary schools, it is planned to replace many primary and preparatory schools and to extend existing school buildings by adding classrooms, laboratories, and libraries. There are also plans for the building of accommodation for teachers and students who live far away as well as administrative offices in the regions.

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Pakistan

A. Ghafoor

Pakistan came into being on August 14, 1947 after a long struggle by the Moslems of the subcontinent who proclaimed their separate nationhood in the Pakistan Resolution of March 1940 under the leadership of Mohammad Ali Jinnah. The two-nation theory was accepted after bitter opposition by Hindu India and the British, and the subcontinent was divided, with the Hindu- and Moslem-majority areas becoming separate sovereign states.

Initially, Pakistan had two constituent parts, East Pakistan and West Pakistan, which were separated from each other by 1,600 kilometres of Indian territory. In December 1971, East Pakistan seceded, giving birth to the new state of Bangladesh. Pakistan now comprises four provinces: the Punjab, Sind, the North-West Frontier Province, and Baluchistan, besides the federal capital Islamabad and federally administered areas. It is bordered by Afghanistan, the Soviet Union, and the People's Republic of China in the north; India in the east and southeast; and Iran in the west. To the southeast of Pakistan lies the Arabian Sea.

According to the 1981 census, the population of the country was 84.25 million; this yields an estimated population of 100.7 million in mid January 1987. The 1972-81 intercensal growth rate of the resident population was estimated to be 3.06 percent per year. The proportions of the population in the four provinces were 56.24 percent in the Punjab, 22.63 percent in Sind, 12.98 percent in the North West Frontier Province, and 5.14 percent in Baluchistan. The federally administered tribal areas and Islamabad contained 3.10 percent of the population. The density of population per square kilometre grew from 82 in 1972 to 100 in 1981. The density may have increased to 126 by mid January 1987. According to the 1981 census, the urban population constitutes 28.3 percent of the total population (Pakistan 1987). Pakistan is basically an agricultural country

with wheat, rice, cotton, sugar cane, and tobacco as its principal crops. It is one of the leading exporters of rice and cotton.

The region is a melting pot of diverse races and cultures coming both from outside the subcontinent, in successive waves of migration across the northwest passes, and from within the subcontinent. These migrant groups include the Aryans, Greeks, Turks, Persians, Afghans, and Moguls from the northwest and the Arabs who conquered Sind. Traces of the Dravidians are found in the Kalat region of Baluchistan. The dominant racial type, however, is Indo-Aryan. The Baluchis and the Pathans are predominantly a mixed stock of Turks and Iranians, the two major Aryan branches.

About 97 percent of the people are Moslem. The Hindus, Christians, and Ahmadis constitute minority groups. Urdu is the national language and is understood throughout the country. There are regional languages such as Punjabi, Sindhi, Pushtu, and Baluchi. English is still widely used in commercial, legal, and other official transactions. It is also the medium of instruction in colleges and universities. The literacy rate of Pakistan, according to the 1981 Census (among persons aged 10 years and over), was estimated to be 26.2 percent, being 47.1 percent in urban areas and 17.3 percent in rural areas. Among males the literacy rate was 35 percent and among females 16 percent (Pakistan 1981a). This is the lowest literacy rate among developing countries, yet it shows a significant increase from 13.2 percent in 1951, 18.4 percent in 1961, and 21.7 percent in 1972. Literacy rates tend to vary widely from province to province (Pakistan 1987).

The present system of education has the characteristics of the pattern of education introduced by the British Government in India. Ever since independence, attempts have been made to relate the educational system to the requirements of an independent state.

Some of the milestones reached in this direction are the All Pakistan Education Conference 1947, National Education Conference 1951, National Commission on Education 1959, Commission on Student Problems and Welfare 1964, National Commission on Manpower and Education 1969, New Education Policy 1970, and National Education Policy 1979. By and large all have emphasized: (a) orientation towards Islamic ideology and character building; (b) primary education and literacy; (c) orientation towards science and technology; (d) quality improvement; and (e) reduction in inequality in educational facilities (Mufti 1980).

The political system of Pakistan has undergone successive changes. From 1947 to 1956, Pakistan was a dominion of the British Commonwealth. It became a republic on March 23, 1956 with a parliamentary form of government. The ineffectiveness of the constitutional system prompted the military to take over the government in October 1958. From 1958 to 1962, the country was ruled by Ayub Khan under martial law, and thereafter as a presidential form of government. Under mounting pressure from the public, Ayub Khan stepped down in 1969 and was succeeded by another general, Yahya Khan. Shortly after, East Pakistan seceded and Z. A. Bhutto became the head of government. In July 1977, General Mohammad Zia ul Haq overthrew the government of Bhutto and ruled the country under martial law until December 1985. From January 1986 martial law was lifted; the 1973 constitution was revived; civil rights were restored; and a parliamentary form of government was reintroduced.

In 1978 the government launched the fifth five-year plan (1978–83) and promulgated the National Education Policy in 1979 under which the private sector was encouraged to establish educational institutions. The institution of the mosque or *maktab* school was revived. About 8,200 mosque schools were opened during the fifth five-year plan and 40,000 more have been projected during the sixth five-year plan (1983–88). This would be in addition to the 65,000 other primary schools that already exist and the establishment of 4,000 primary model schools—one for each Union Council (Pakistan 1983 p. 15).

The Prime Minister, in his Five Points Programme, has assigned top priority to education and more particularly to rural education for which Rs. 27,490 million have been earmarked to be spent by 1990. Local development schemes identified by the members of the National Assembly (NMAs) and Senators include 4,324 schemes for education worth Rs. 821 million during 1985–86. Besides the above efforts, a special project "Iqra", has been launched in Rawalpindi and Islamabad districts by the Literacy and Mass Education Commission (LAMEC). The recently launched project, "Nai Roshni Schools 1986–90", is expected to go a long way towards enhancing literacy in the country. A total number of 22,000 schools will be organised, in the existing school buildings, for illiterates of the age 10–14 years (Pakistan 1987).

1. General Structure and Size of the Educational Effort

The formal educational system has a multistage structure. The first is the primary stage which lasts five years and enrolls 5- to 9-year-olds. The primary stage is followed by a three-year middle stage, a two-year secondary stage, and a further two-year higher secondary stage. The higher secondary stage is also called the intermediate stage and is considered a part of college education. To obtain a degree, four years of higher education after 10 years of primary and secondary schooling are required. Students who pass their first-degree stage are awarded a baccalaureate degree in arts or science typically at the age of 19 years. In order to complete an honours course, an additional year's study is required (Pakistan 1974 p. 9).

The duration of postsecondary education varies in technical and professional fields. The polytechnic diploma is a three-year course. A bachelor's degree in medicine (MBBS) requires five years of study after the intermediate stage (12 years of schooling). Similarly, bachelor's degree courses in engineering and veterinary medicine are of four years' duration after the intermediate examination. An additional two years after acquiring the bachelor's degree are required to complete a master's degree. A doctoral degree may require two to three years study after the completion of a master's degree course (Pakistan 1974 p. 9).

Since 1947, there has been a quantitative expansion in terms of physical facilities and enrolment as well as qualitative improvement in terms of curriculum reforms. Enrolments in various streams of formal education in 1947, 1960, 1970, 1980, and 1985 are given in Table 1.

Side by side with the modern system of education introduced during the British period, is the traditional religious education system which provides education in the Islamic religion based on the Koran, the Hadith (the sayings of Prophet Muhammad), Islamic jurisprudence, logic, etc. At the elementary level are *maktab* schools

Table 1
Enrolment 1947–85^a

Streams of education	1947	1960	1970	1980	1985
	(thousands of students)				
Primary	770	2,060	3,960	5,213	7,389
Middle	221	449	933	1,391	1,805
High or secondary	58	160	336	476	676
Secondary-vocational	4	15	35	35	57
Arts and science colleges	14	71	199	253	373
Professional colleges	4	13	37	72	59
Universities	0.6	5	17	42	54
Total	1,071.6	2,773	5,517	7,482	10,413

^a Source: Pakistan 1987 p. 180

(attached to mosques) for the learning and memorization of the Koran and imparting elementary religious instruction. *Madrassahs* (or *darul-uloom*) impart advanced instruction on various aspects of Islamic education. Together they constitute the organizational structure of religious education. Attempts are being made to introduce modern subjects into the *madrassah* system in order to provide an effective integration of the religious educational system with the formal school system. At present there are about 1,200 *madrassahs* with a total enrolment of 58,000 students. Graduates of the *madrassahs* are called *fazils* and are qualified to be appointed as religious teachers in secondary schools. These institutions have been established with private donations but receive grants from the government.

Nonformal education is provided by the Allama Iqbal Open University which was established under the Open University Act of 1974. The main objectives of the university are: (a) to provide facilities for those who cannot leave their homes and jobs; (b) to provide facilities for educational improvement for the masses; (c) to provide facilities for the training of teachers; and (d) to hold examinations and to award and confer degrees, diplomas, certificates, and other academic distinctions to persons who have been admitted to the university and have passed its examination under the prescribed conditions.

The university began functioning in 1973 and was opened to students in 1975. In the first year of its establishment, 1,976 students had enrolled for a certificate-level functional course in Arabic and for master's degrees in languages which included French, German, and Persian. By 1984-85, in only one semester, i.e. October 1984, 46,334 students, both male and female, from all parts of the country were enrolled in 75 courses ranging from the certificate-level functional courses to the master's courses in English, and in educational planning and management.

2. Administration and Finance

The federal government continues to be the overall policy-making, coordinating, and advisory authority on education. The educational institutions located in the federal capital territory, the Centres of Excellence, and the Area Study Centres and other nationalized institutions in various parts of the country are administered by the federal Ministry of Education. Universities located in various provinces are administered by the provincial governments but are exclusively funded by the federal government through the University Grants Commission.

The federal Ministry of Education is headed by the minister for education. The most senior civil servant in the ministry is the education secretary. The provincial education departments are headed by the education ministers of the respective provinces and again, the senior civil servants in these departments are called education secretaries.

Each province is divided into regions for educational administrative purposes. Each regional office is headed by a director. The regions are further divided into districts and the officer in charge of a district is the district education officer who, in turn, is assisted by an assistant district education officer. The supervision of primary schools falls under the jurisdiction of the district education officers; however, secondary schools are under the administrative control of the regional director of education. For colleges there are separate directorates of education. Universities are autonomous bodies supervised and controlled by their own syndicates which are appointed by the governors of the respective provinces. Each syndicate is headed by a vice chancellor who is the academic and administrative head of the university, and also heads the syndicate and the various academic and administrative bodies of the university. The governors of the respective provinces are ex officio chancellors of the universities in their domains.

Education has always been a provincial matter. Even the 1973 constitution recognizes the right of the provincial governments to control education. There are certain areas however, such as curricula, syllabi, planning, policy, and standards of education, reserved in the constitution for coordinated action. The policies in these areas are formulated jointly by the federal and provincial governments. However, federal legislation supercedes provincial legislation. Whatever policies are finally approved are carried out by the federal and provincial governments. For all development activities, the federal government provides funds for capital expenditure, whereas the provincial governments have to provide matching funds for recurring expenditure (Ghafoor 1980).

The percentage of educational expenditure as a percentage of total national expenditure for the years 1983-84 to 1985-86 comes out at 8.2, 7.8, and 8.4 percent respectively; this figure had been less than 7 percent during the previous years (Pakistan 1986). However, greater concern for education has been shown in terms of higher availability of finances for the education sector. The gross national product (GNP) percentage for education during the year 1987 has been raised to 1.98 percent, which shows a steady rise from 1.3 percent in 1972 and 1.8 percent in 1978. Nevertheless Pakistan is still a long way short of the target of spending 4 percent of GNP on education as recommended by international agencies (National Education Council 1986).

3. Teacher Training

Teachers are trained at various levels. The minimum qualification required for a person to become eligible to enlist at a teachers' college or institute is ten years of schooling. The Primary Teaching Certificate (PTC) is the most popular qualification. This involves a one-year pedagogical training including four months' compulsory teaching practice. There were 155,000 male and 59,000 female teachers for about 4.45 million male and about

2.2 million female students in the primary schools in 1984-85. By 1983 there were 88 teacher-training institutes for primary- and secondary-school teachers, with a training capacity of about 25,500 teacher trainees. Coeducation exists at the primary and tertiary levels but is less common at the secondary level.

In order to become a high-school teacher, a bachelor's degree and a one-year degree course in education leading to the Bachelor of Education (B.Ed.) are necessary. The Master of Education (M.Ed.) degree requires two years of training in education after the first bachelor's degree and one year of training after the B.Ed. There were 15 education colleges with an enrolment of 5,053 (including 2,419 females) in 1978-79.

The institutes where primary-school teachers are trained are called normal schools. Training institutes for high-school teachers are known as teacher-training colleges. The Institutes of Education and Research (IER) at the Punjab, Peshawar, and Sind Universities offer master's degree courses in specialized subjects such as business education and industrial-arts education. Technical teacher-training colleges also exist and a National Technical Teachers' Training College for training teachers for polytechnics and technical colleges has been established.

4. Curriculum Development, Teaching Methodology, and the Examination System

At the federal level the National Bureau of Curriculum and Textbooks operates as a constituent part of the Ministry of Education. Curriculum bureaus and textbook boards also exist in the provinces. The national bureau coordinates the activities of the provincial bureaus. The development of curricula is initiated by the provincial bureaus but is finalized jointly by the national and provincial bureaus.

The medium of instruction at the primary level is the national language (Urdu) or an approved provincial language. Urdu is used as the medium of instruction at the secondary and higher secondary levels. Higher education is generally conducted in English.

The courses offered are generally the same throughout the country. Diversification of courses takes place after class 8. Three streams of courses, that is, arts, science, and technical/vocational, are available from which students can choose according to interest and aptitude. Medicine and engineering are the most prestigious courses and competition is greatest for these.

Textbooks are produced by the provincial textbook boards. Writers are appointed in consultation with the curriculum bureau. At the higher education level, particularly in scientific and technical fields, foreign textbooks are usually prescribed. Since the cost for foreign books is prohibitive, most students can never own a book for intensive study. A national book foundation has been established by the government to reproduce such books locally and make them available for

students. Book banks have also been established on the campuses of the universities (Pakistan 1974 pp. 10-11).

Up to class 9 there is automatic progression based on the cumulative record of a student. Public examinations are held at the end of classes 10 and 12. These examinations are conducted by the boards of intermediate and secondary education. Universities conduct their own examinations and also those of the colleges affiliated to them.

The system of public examination has been under criticism for a long time. It is considered as invalid, inefficient, and to some extent also corrupt. Annual examinations of continuous evaluation have recently been initiated. In some universities the semester system has been introduced on a trial basis.

5. Educational Research

There are very few institutes of educational research. The principal institutes are located at Islamabad, Lahore, Peshawar, and Hyderabad. Individual studies are undertaken by the students in these institutes as a requirement for their master's degree. A National Institute of Education and Research at the federal level is expected to coordinate all research efforts. Similarly, a Bureau of Educational Planning and Management existed in the Ministry of Education to undertake specific studies for planning and policy formulation. This bureau has been converted into an Academy of Educational Planning and Management to provide training to planners and administrators. In addition, there is a planning wing in the Ministry of Education which carries out routine activities such as the formulation, appraisal, and evaluation of educational projects and the securing of funds from the Ministry of Finance.

6. Major Problems

The major problems likely to be encountered over the next two decades are achieving universalization of primary education and promoting widespread literacy in the country; promoting scientific and technical education; improving the internal efficiency and external effectiveness of the educational system; and achieving equality of educational opportunity by sex, social class, and geographic region.

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Panama

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The Republic of Panama lies on an isthmus or land bridge that connects the North and South American continents. It is best known for the man-made canal that bisects the country and permits ships to pass between the Atlantic and Pacific Oceans. Panama is bordered on the southeast by the South American country of Colombia and on the northwest by the Central American country of Costa Rica.

About half of the total population of 1.9 million live in the two principal cities that lie at the two ends of the canal, Panama City at the Pacific entrance and Colon at the Atlantic entrance. The trend of population movement is toward increased urbanization, since in 1930 only one-third of the nation's residents lived in the cities.

In terms of ethnic composition, the major population groups in the country are Hispanics, West Indian Negroes, indigenous Indians, and mestizos (of mixed Indian and Spanish ancestry). The mestizos make up more than half the population and the Indians less than 10 percent. The major Indian groups are the Cunas, the Chocoes, and the Guaimies, who have maintained many of their own languages and customs against the cultural intrusions of Europeans and North Americans for nearly five centuries. While educational progress has been achieved with the indigenous peoples, the illiteracy rate among the Indians is still four times the national average (Organization of American States 1979 p. 137).

Over the centuries, Panama's strategic position as the narrowest strip of land between the Atlantic and Pacific oceans has been the cause of the political struggles waged by other nations to control its territory. Spain held the territory from the early sixteenth century until it joined the freedom movement of Simón Bolívar in 1821 and then allied itself with the new nation of Colombia until 1903. At the beginning of the twentieth century, the United States sought permission of the Colombian government to build a canal across Panama so that

ocean-going vessels might pass from the Atlantic into the Pacific without making the long voyage around South America. However, after the Colombian government disagreed with the plan, the United States helped support a Panamanian rebellion which resulted in Panama winning its independence and establishing its own republic. As a result, the United States was granted permission to construct the canal and was leased in perpetuity a zone five miles wide on either side of the waterway. The canal was opened in 1914.

Over the following decades the United States exerted a strong influence on Panama, including on the republic's educational system. In 1977, President Carter and Panama's Brigadier General Omar Torrijos Herrera signed two treaties affecting governance of the Canal Zone. The Panama Canal Treaty nullified all previous treaties and initiated the transfer of legal jurisdiction over the zone from United States to Panamanian hands, a transfer to be completed by the close of the twentieth century. The controversial second agreement, known as the Neutrality Treaty, provides for joint Panamanian and United States responsibility for protection of the canal, permitting the United States for an indefinite future period to use military force to restore operation of the canal should the area fall under enemy attack.

The first Spaniards came to Panama in 1501 and within 10 years controlled Central America. Formal education began in 1519, when the city of Panama was founded on the Pacific Coast and Jesuit priests began establishing primary schools, which reached five in number by the early 1600s. The curriculum of the Jesuit schools stressed the Catechism and prayer as well as the rudiments of arithmetic and the reading and writing of Spanish. This humble system was supplemented by a number of lay teachers, who tutored the children of the wealthy.

By 1744, the Jesuits had opened a *colegio*, or secondary school, and in 1750 they founded the University

of San Javier. The university was closed in 1767, when the Jesuits were expelled from Spanish territories.

Educational efforts in Panama until the twentieth century were periodically disrupted by violence and civil strife, first occasioned by pirates and later by periodic efforts at independence from Spain and later from Colombia. Then a period of continuous educational growth dawned when Panama broke away from Colombia to become a United States protectorate in 1903. The constitution of 1904 stipulated that primary education would be free and compulsory for all. And though progress was made toward this target, over succeeding decades the goal of universal primary schooling was never achieved. Starting from nearly no students in 1903, the system soon served 829, and then, 60 years later, in 1964, enrolled 192,412 pupils in grades 1 through 6. By 1978, there were 368,738 pupils in public and private primary schools as the educational growth rate surpassed the general growth rate of the population.

Obstacles to attaining the universal-schooling goal over the first half of the twentieth century included a shortage of teachers and classrooms and the inaccessibility of many rural areas. In addition, parents often encouraged their children to leave school as soon as they reached an age when they could be employed in useful work. For example, by 1944, enrollment in grade 6 of the primary school was only 16 percent of the enrollment in grade 1. By 1978, the dropout rate in the primary school had been much reduced, with enrollment in grade 6 reaching 62 percent of that in grade 1 (Tejeira 1966 p. 58, Panama 1978 p. 12).

At the secondary level, normal schools were founded for men and women in 1904, and a national school of music was established. In 1906, the school of commerce and languages, a secondary school for women, and the school for the indigenous were opened, followed by a school of arts and crafts and a professional school for women. The number of secondary schools had reached 33 by 1960 and 81 by 1978. Enrollments in public schools grew from 10,803 in 1945 to 50,936 in 1964 and to 113,513 in 1978 (Tejeira 1966 p. 67, Panama 1978 p. 22).

1. Structure of the Educational System

Schooling in Panama in the early 1980s combines characteristics of the system prior to the reform begun in the early 1970s and of the system that has been introduced gradually since then. The educational system is thus best described in two stages, pre- and post-reform.

The prereform primary-school system was of a classical nature with two curricular streams, vocational and academic. The labor-focused vocational stream prepared youths for entrance into the labor market as early as age 12. The academic stream, on the other hand, did not prepare students for any specific kind of employment. Rather, it readied pupils to enter secondary and higher education.

The prereform system began with preprimary education available for children between ages 3 and 5, with the majority of the preschools private and the public preschools requiring the payment of fees by parents. As a consequence, enrollment was restricted to the minority of the population who could afford the fees and who felt such early training was worthwhile.

At age 5, pupils entered the first three-year cycle of compulsory schooling. The curriculum in the first cycle was of a general nature, permitting children to display any aptitude they may have had. The second three-year cycle was divided into two tracks, the academic and the vocational. After the successful completion of either track and the receipt of a primary-education certificate, pupils around age 12 faced three alternatives—to enter the job market, to go into secondary vocational education, or to enter general secondary education.

Under the prereform system, secondary education was neither compulsory nor free. Thus, faced with the possibility of earning money to help with family finance or with the alternative of paying for further education, many students entered the job market, a decision which often simply added to the nation's unemployment rate, which in urban centers was more than 10 percent by 1979 (Hallak and Caillods 1979 p. 46).

The vocational stream of secondary education offered two years of general vocational education followed by three years of training in a specific field. Course work included training in industrial skills, commerce, agriculture, trade, seamanship, domestic science, and sewing. Teacher training also was available in the final three-year cycle.

In summary, the prereform system began with pre-school opportunities for a minority of young children, then six years of free elementary education divided into two tracks, academic and vocational. Secondary schooling, neither compulsory nor free, furnished both academic and vocational tracks.

The movement to reform education in the early 1970s began in the rural settlements with a new type of institution called the "production school." The movement was first centered in rural districts because these areas had the lowest literacy and attendance rates, the poorest school facilities, and a dispersed population. The general aims of the reform were to strengthen the economy and to achieve cultural independence for a nation that had first been culturally dominated by the Spanish and then by North Americans (Isos 1977 p. 396, Hallak and Caillods 1979 p. 40, Organization of American States 1979 pp. 132-44).

In the rural districts the government first established the *asiento campesino*, or rural settlement, and furnished it with running water and electricity, with the expectation that soon the populace would express a need for more services, thus creating a foundation for commerce and an incorporated township called a *corregimiento*. A collection of *corregimientos* make up a political *distrito*, with a collection of *distritos* composing a province, of which there are nine in Panama.

According to the government's education plan, the production school was created to serve the rural settlements and provide a new sequence of education cycles. Preprimary education has been unaffected by the reform movement, except that more families appear able to finance preschool attendance for their children than was true prior to the 1970s. Compulsory education begins at age 6 and lasts for nine years. It consists of three cycles of increasing duration. The first lasts two years and focuses on basic literacy and numeracy. The second takes three years, and the third four years. At the close of the third cycle, each student sits for a final examination. By successfully completing the examination, students earn a certificate entitling them to enter the fourth cycle, which is a form of intermediate education preparing youths for employment or higher education. Successfully completing the compulsory examination at the close of the fourth cycle earns the student a *bachillerato* diploma and an opportunity to enter the fifth and final cycle, consisting of university studies, which are completed with a third compulsory examination.

The transition from the prereform to the postreform pattern did not occur immediately all over the nation but, rather, has progressed in gradual stages, beginning in the rural areas that had the greatest educational needs and moving toward the urban centers. By 1978, five out of the nation's nine provinces and the Comarca of San Blas (a territory on the Caribbean coast of Panama)—all rural regions—showed substantial numbers of students enrolled in reformed schools. In that year, the province of Darien had 7,084 pupils in reformed schools and only 35 in nonreformed programs, while the figures for San Blas were 6,408 and 0 respectively (Panama 1978 pp. 8–10). Literacy rates and the proportion of school-age children in school have risen, and the extra three years added to mandatory education have served to reduce unemployment figures by retaining students in school for a longer period.

Higher education has not been connected to the political reform that undergirds the new schooling movement. Traditionally the nation's two universities have enjoyed autonomy on the campuses they operate throughout the country. The University of Panama, a public institution, is an outgrowth of the National Institute, founded in 1935. University enrollment on campuses in five of the nation's provinces reached 34,966 in 1978, with 53 percent of the students being women (Panama 1978 p. 13). The university grew steadily until 1968, when student riots closed the campuses. The institution reopened in 1969 after a widespread reorganization, including the appointment of new deans, mass faculty dismissals, and the expulsion of students with academic-grade averages below "C."

The private Catholic University of Santa Maria Antigua is based in Panama City, but maintains another campus in the province of Colon. The institution is autonomous, supported by tuition fees.

Like most Central American countries, the Pan-

amanian system of education is highly centralized under a Ministry of Education. The minister and vice minister formulate policy with assistance from several advisory groups, such as the National Planning Council, the National Council on Education, and the National Commission for UNESCO. Top-level policy is diffused through directorates in charge of primary education, secondary education, and planning and through departments of literacy and adult education, of physical education and sports, of vocational education, of teacher selection, and of fine arts.

The national printing office and the library system also fall under the administrative wing of the ministry. The School of Dance, National Museum, National Theater, and National Orchestra are supervised by the department of fine arts in the ministry.

The educational reforms of the 1970s were accompanied by some measure of administrative decentralization. In 1975, an Integrated Educational Development Program was established so that the reform might be carried out through local educational development centers. These centers are linked to the local *corregimiento* administrative unit, in which governance of the center schools requires direct support from influential individuals and groups in the community. These include civil, military, educational, and church authorities and representatives of the Ministry of Agricultural Development, the Ministry of Planning and Economic Policy, the Ministry of Health, and the Institute for Training and the Development of Human Resources. The objective of this coordinated administrative effort is to increase the distribution and cost effectiveness of rural education through partial decentralization and through coordination of schooling with other public and private authorities.

2. Educational Personnel

Traditionally, there have been three classifications of teachers in Panama. At the time that the original normal schools were founded in 1904, nongraduate teachers made up the great majority of the instructional force. A second group of teachers consisted of those with a normal-school certificate. The number of such graduates in service by 1929 had reached 1,555, which represented 53 percent of the primary-school teaching corps. By 1965, there were 6,155 normal-school graduates in service, making up nearly 97 percent of the schools' instructional staff. The third, and still higher, class of teachers, consists of graduates of the Faculty of Philosophy, Letters, and Education from the University of Panama. In 1965, university graduates composed 75 percent of the secondary-school teaching force of 4,645 (Tejeira 1966 p. 68). By 1977, the number of secondary teachers increased to 5,900, of which slightly more than half were women.

Teacher training is a government responsibility. Individuals applying to normal schools to teach in the first and second cycles of basic education (grades 1–5 in

the reformed system) must possess the basic-education certificate earned after completing grade 9. Normal-school training continues for three years, covering approximately grades 10 through 12 of the intermediate school. The Ministry of Education and the University jointly provide five additional semesters of instruction for teachers who staff the third cycle of basic education. Intermediate-school teachers usually study five years at the university to earn their teaching certificate.

During the 1960s, the system of teacher education suffered serious inadequacies, partly because the Ministry of Education tended to respond to political pressures rather than to be guided by a clearly defined philosophy and relevant objectives. The lack of proper direction was aggravated by insufficient coordination between professors of theory and those in charge of practice in the normal schools. Furthermore, directors of normal schools acted primarily as managers rather than as leaders in educational reform. Finally, teachers who learned new skills in teacher-training schools were usually not encouraged to use or share such methods while working in schools. However, since the overall educational reform of the 1970s, the government has sought to effect changes in the teacher-preparation system commensurate with the goals of the reform.

3. International Efforts in Education

In 1975, Panama joined the *Red de Sistemas Educativos para el Desarrollo en Centroamerica y Panama* (Network of Educational Systems for the Development of Central America and Panama). The most basic objective of the network has been to facilitate cooperation among the participating countries, as well as UNESCO and other international organizations, by introducing a Central American educational scheme based on existing institutions and established practices (Bernede 1980 p. 19). The Organization for the Educational Coordination of Central America (CEC), made up of the ministers of education of the six member countries, comprises the administrative body for the project. Long-range policies and objectives are formulated during periodic meetings. The technical activities of the group, carried out by ministerial and other education-sector participants, operate through the multilateral technical commission. This body is responsible for carrying out a continual analysis of the problems of each of the six

countries and provides programming, follow-up, and control activities for the network.

Accomplishments of the network include assessment of local socioeconomic needs, of curricula, of teacher training, and of administrative and planning structures. The network also provides support for projects already under way in the member countries. Efforts are also exerted toward institutionalizing the diffusion of research results and general educational information. Finally, mutual cooperation has been encouraged through workshops, inservice courses, and school-observation opportunities. The organization has thus increased each member nation's resources for solving educational problems.

In summary, the government of Panama offers a complete system of education for its constituents, with increased enrollments reported from preprimary schools through the university. Enrollment rates exceed the population growth rate, and literacy rates are rising steadily. Because students in the reformed basic-education program receive more schooling than in the past, they enter the labor market better equipped for their jobs. Thus, the nation has been able to report progress in both the quantity and quality of schooling for its citizens.

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Papua New Guinea

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The geography and history of the newly created nation of Papua New Guinea pose exceptional barriers to national unity. Over the past decade of the independence process, budgets have reflected strong central

planning, with increasing priority to education. Currently, fundamental decisions on the decentralization of government powers, on nationalization of staffing, on language of instruction, on curriculum, and

on equity versus efficiency have attempted to balance strong local demands for autonomy against common national needs. Yet the process of national self-realization has been implemented in a climate of remarkably free speech and democratic stability. Very high expectations of education have been accompanied by considerable public dissatisfaction with perceived results. The course of the delicate process for achieving a viable national identity should be instructive for students of the development process, particularly political scientists and educational administrators.

1. Background

New Guinea is the second largest island in the world. The independent state of Papua New Guinea incorporates the eastern half of that island, together with some 600 islands stretching to the east and north. Between the extremes of land—over 1,600 kilometres (east–west) by some 1,000 kilometres—is a land area of 462,840 square kilometres (178,700 square miles), mostly mountainous (reaching a height of 4,706 metres with Mt. Wilhelm).

The relatively small population (3,006,999 according to the 1980 census) constitutes the world's richest collection of distinct cultures. Traditionally separated from each other by mountains and water, these minisocieties, each with its distinct language and culture, were further subdivided by endemic tribal warfare into political groups no larger than the village.

Members of the broad Melanesian grouping which stretches from Indonesia to Fiji, Papua New Guineans include a remarkable diversity of ethnic types, represented not only by 738 distinct languages/dialects (the largest with fewer than 200,000 members), but also by marked tribal differences in such features of appearance as facial shape, skin colour, and build. With these physical differences further reinforced by cultural differences in style of dress and personal ornamentation, Papua New Guinea is characterized by a heterogeneity of group identities unmatched by any other nation in the world. This situation presents a unique challenge to education.

The difficult task of creating a climate of national unity is further compounded by regional differences arising from the varying degrees of colonial influence. On the one hand, there are relatively sophisticated groups with up to a century of outside contact and with well-educated learners and, on the other, large populations (for example, of the highlands valleys) whose contact with the outside world dates back to only the 1950s.

But even the now sophisticated coastal groups are relatively recent participants in world society. Nineteenth-century Papua New Guinea, with a reputation for cannibalism, fierce and aggressive inhabitants, and malaria, was long by-passed by traders. Yet, these small and "savage" societies, without any universal religion, proved a magnet to European Christian missionaries,

who were still in the forefront of those opening up new areas in the 1950s.

Colonial policies used the missions as important agencies of development and education, placing few restrictions on the entry of a wide range of Christian churches. Most missions could assume religious monopoly of new areas, and so the development of any particular district of Papua New Guinea is in part a function of the policies of whichever church concentrated on that district.

The first colonization was of northeast New Guinea by Germany in 1884, immediately followed by the declaration of a British protectorate over the remainder. The British transferred control to Australia in 1906. In the First World War, the Australians seized German New Guinea, which became a League of Nations mandated territory after that war and a United Nations trust territory after the Second World War.

Until the Second World War, Australia administered the two territories separately and in quite distinct fashions. After the war, Australia administered them as the single territory of Papua and New Guinea until 1975.

From 1942 to 1945, a large part of Papua New Guinea was controlled by Japan. Since independence (1975), Japan has become an important trading partner. In addition, Papua New Guinea has vigorously established links with its South Pacific (SPC) and Asian (ASEAN) neighbours, with fellow members of the Commonwealth, and with such international bodies as the European Economic Community.

As one of the first steps in their "civilizing" mission, the Christian missionaries learned the vernacular languages. By far the largest organization now carrying out this work is the Summer Institute of Linguistics, which has, since the Second World War, converted some 150 languages to written form.

The question of language(s) of instruction remains one of the central issues in educational policy today. Initially a mission function, education normally commenced in a language comprehensible to the people. In its postwar education drive, the Australian Administration, as from the late 1950s, prescribed English as the language of instruction from the very first day at school. This decision relates to the obvious practical difficulties of providing teachers and textbooks for even a small number of the widest spoken vernaculars. There has therefore been little effective change in the Australian-established language policy since independence. The quarter-century of operation of this policy may help to account for serious problems for pupils in perceiving the relevance of education, noted in overall standards of attainment and perhaps due in part to the lack of meaning for the learner of much of what happens in the critical first years at school.

Population growth has traditionally been slow in most areas of Papua New Guinea. Even in 1971, the average life expectation at birth was still only 49. With modern health services the population is growing at a rate which

may now exceed 3 percent per year, giving prospects of a population of five million by 1996. There has been a marked change in the age structure of the population, with the proportion below 15 now exceeding 43 percent. By contrast with the 3 percent population-growth figure, the present rate of growth of the budget (in real terms, corrected for inflation) is now less than 1 percent.

Prior to the Second World War, Papua New Guinea had essentially a village-based economy of subsistence, with some contribution to unskilled labour requirements in the plantation, mining, and timber industries. With postwar developments, there has been a remarkable diversification of the participation of Papua New Guineans in the modern cash economy. The emergence of a financially active educated elite suggests unpredictable consequences for the structure of social classes in Papua New Guinea.

Australian aid, once the bulk of the budget, was still 44 percent at independence. While budget growth has now reduced that proportion to 32 percent (1980), Australian aid is still the largest single source of funds for the budget, though no longer tied to specific projects. Education (all types and levels aggregated), which amounted to 13 percent of the budget in 1960, was 18 percent in 1978. Significantly, some 25 percent of new development funds in 1981 were allocated to education. An important new factor is the growing input of international aid, much of it tied to education.

Since the late 1960s a series of five-year plans has developed into a sophisticated government planning system known as the National Public Expenditure Programme (NPEP), which has become a powerful instrument for directing all budget growth to the attainment of the government's priority goals (Papua New Guinea 1980). Education has benefited considerably from this programme, gaining substantial additional funds for such projects as universal primary education and the equalization of access to high school.

However, during 1981 there was considerable public dispute within the coalition government over the restraints imposed on other forms of spending by the discipline of the National Public Expenditure Programme, thus raising doubts as to the programme's future. At least part of the stress placed on the budget arises out of ambitious development demands, expecting too much from the still limited pool of trained and experienced national skills.

Simultaneously, skilled personnel are required for the nationalization of a large public service and the staffing of 19 new provincial governments, to both stimulate and supply demand through the introduction of commercial advertising and to service a rapidly growing mining sector. Results have included increasing dependence on highly skilled expatriates modelling an affluent life-style, a rapidly growing import bill, the displacement of some subsistence production by cash crops with a declining economic return, and in general, an increased dependence on the outside world in a way that may limit the country's capacity to control its own

future. Thus, in 1979, imports represented 50 percent of the gross domestic product, having grown at a rate of 12 percent per annum over the previous two years. The importation of food has grown from US\$60 million in 1970-71 to US\$135 million in 1979, while the importation of wheeled motor vehicles has grown from 5,236 in 1960 to 45,681 in 1979. It is apparent that Papua New Guinea is undergoing a typical developing country revolution in life-style expectations, one which is placing new and perhaps impossible demands on government, the budget, and education.

Of the estimated working-age population of 1,165,000 in 1979, only 145,000 were employed full time—that is, only 15 percent of the working-age population. Personnel projections (Papua New Guinea 1981) indicate that, for each job created in the 1980s, 10 young people will reach employable age. The implications for educational goals are clear—but not necessarily to parents, voters, and politicians.

The operations of the postindependence Westminster-type government have been remarkable for freedom of speech, stability, and the active operation of such guarantors of individual freedoms as the Ombudsman Commission. All governments so far have been coalition governments, dominated by regional interest groups and the concerns of a number of strong political leaders. With no clear party commitment to particular ideologies, there has been a lack of well-defined and consistent political preference to resolve some of the more difficult policy choices facing educational administrators.

2. Goals of Education

Foremost among formally stated national goals in education are universal primary education, equity, and rural development (Papua New Guinea 1980). Yet the strongest political pressure on the development of education expresses the desire of the grass-roots voter for a greater share of education for his children, competitive access to secondary and higher education being seen as the chief means of economic and social mobility. Thus the national priority for universal primary education receives lukewarm provincial operational support while there is constant political enthusiasm for new high schools. As a result, throughout the 1970s, despite formally stated policies to restrain the growth of secondary education in favour of achieving universal primary education, the proportion of primary-school-age children in school has remained at a plateau, barely exceeding the rate of population growth, rising from 55.5 percent in 1972 to only 56.5 percent in 1978. By contrast, secondary-enrolment ratios over the same period rose from 10.5 percent to 12.9 percent.

It seems that the model of personal economic and social success set by the educated at the time of independence has proved overwhelmingly powerful in spurring the private demand for educational "tickets", its

political expression being sufficiently strong to counter formal national priorities.

At the same time, wastage in primary school has risen to between 40 and 50 percent in 10 out of 19 provinces. National government efforts in primary education are now directed as much to retention as to expansion. It is clear that the 1978 goal of universal primary education by 1996 is now inevitably delayed, perhaps to 2020.

On the other hand, government projections indicate that, during the 1980s, there is likely to be a growing divergence between the scale of employment opportunities and the popular perception of the role and desirable nature of high schools.

There has been a small but steady movement in the direction of realizing the government's policy of decreasing regional inequity in access to high school (Sheret 1979). For example, while the proportion of high-school-age children attending high school in the advantaged National Capital District dropped from 16 to 13 percent between 1971 and 1981, that in the disadvantaged Southern Highlands Province rose from 2 to 11 percent.

The preparations for independence saw the proliferation of over 70 tertiary institutions which now absorb 44 percent of the education budget. Per capita annual expenditure on tertiary students now averages

US\$8,000 (compared with US\$130 for primary and US\$400 for secondary students, although a beginning primary teacher is paid over US\$4,000 per year). In 1981, the government decided to establish the Commission of Higher Education, with a rationalizing and coordinating function.

Literacy remains relatively low (32 percent in the 1971 census), with little government investment in adult literacy. As might be expected, the glamour of formal education has overshadowed pious intentions concerning nonformal education, which received only 2.3 percent of the education budget in 1976-77 (Anderson 1981).

3. Structure and Size of the Formal Educational System

Prior to the Second World War, the structure of the school system was largely a matter for the local mission. The first postwar national system followed a 4+4+3 pattern, the first four years being in mission-conducted vernacular schools. From the late 1950s, a 7+2+2 pattern developed, starting in English and following the Australian primary-school pattern, with entry into the preparatory year at age 5 followed by six primary grades. From the late 1960s this was converted to the present

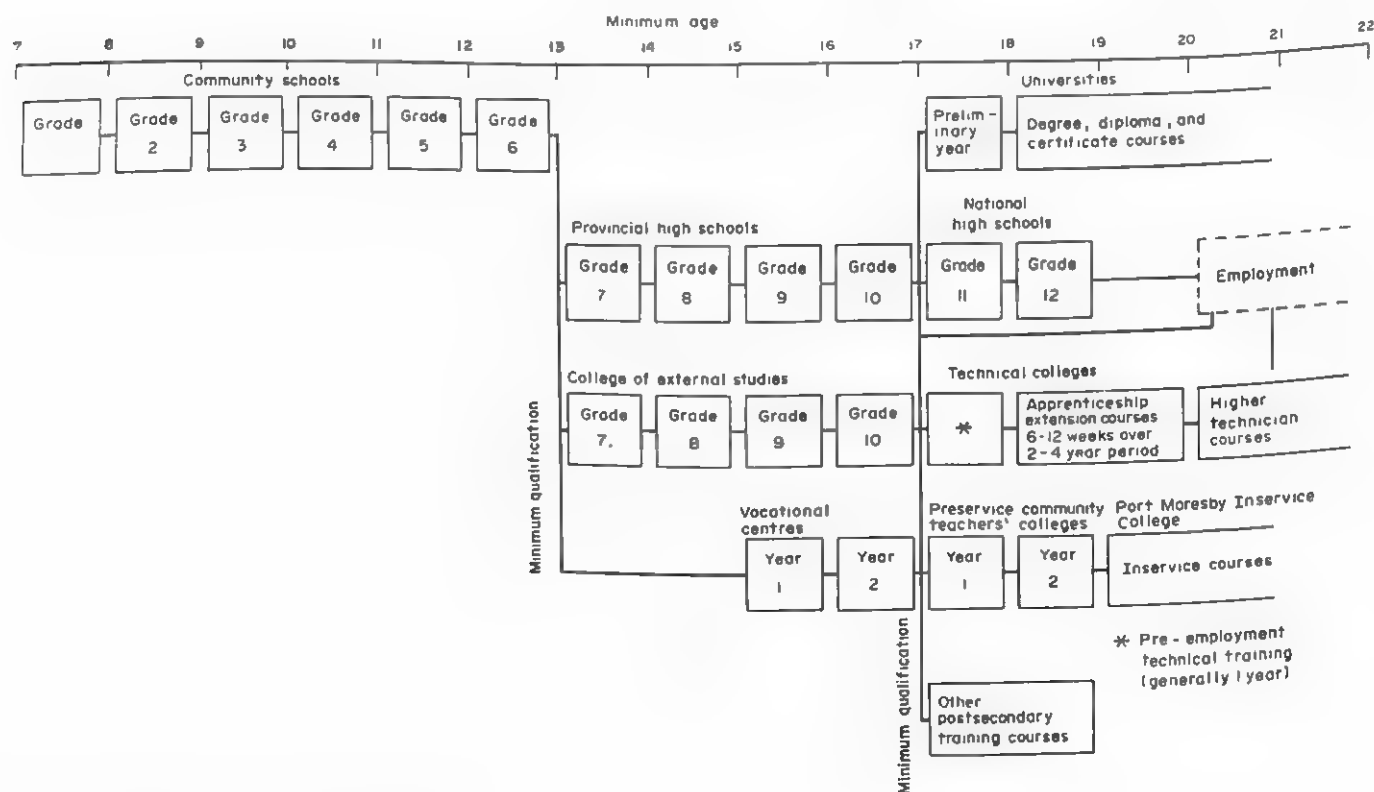


Figure 1
Structure of the educational system, 1980

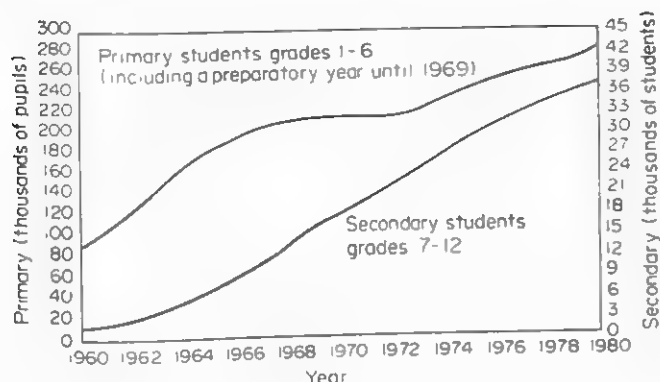


Figure 2
Primary and secondary enrolment growth 1960-80

6 + 2 + 2 pattern, starting at age 7. The 28 small teacher-training centres in 1960 have been replaced by 10 larger colleges offering two years of post-grade-10 training (three years for secondary teachers). With the development of national high schools (grades 11-12), tertiary institutions are now slowly increasing the proportion of their entrants who have completed grade 12. Figure 1 presents the structure of the system.

When the 1970 Education Ordinance integrated church and government schools into a common planning and management system, substantial centralized services developed at the central-government offices in the capital Port Moresby. The 1977 Organic Law on provincial government devolved substantial powers to the provinces, particularly over primary education, with a small start now being made on provincial planning, inservice training, and curriculum services.

Enrolment data for 1980 give a picture of the current distribution of educational opportunity by age and, significantly, sex. Approximately 285,000 Papua New Guinean children were enrolled in 2,077 primary schools, being 66 percent of the boys and 48 percent of the girls in that age range. Over 36,000 pupils were enrolled in 99 high schools (18 percent of available boys and 9 percent of girls). Some 1,600 grade 11 and grade 12 students in the four national high schools represented 0.35 percent of boys and 0.06 percent of girls. Distribution of educational opportunity still reflects the amount of contact with the rest of the world, with enrolment ratios at primary level ranging from 42 percent (Enga Province) to 100 percent in East New Britain province. Figure 2 presents the enrolment growth in primary and secondary schools from 1960 to 1980.

4. Administration and Finance

Figure 3 illustrates the present administrative structure of the educational system. Provinces differ enormously in economic and personnel resources and in administrative capacity. Decentralization may well contribute

to growing provincial differences in educational opportunity. Though provincial governments now control major agencies of nonformal education (e.g., agricultural extension officers), they have so far shown little capacity to coordinate these specialized activities in a way that is meaningful at village level.

Of funds budgeted to various educational functions in 1978, 33 percent were allocated to primary schools, 12 percent to high schools, 3 percent to teachers' colleges, and 19 percent to universities. Private resources invested in education are estimated at a mere US\$20 million per year, comprising mainly fees for admission to schools. With the decision to introduce in 1982 free primary education, this figure could be reduced by up to US\$4 million. Tertiary education is free, each student admitted receiving aid to the value of some US\$1,500 per annum (tuition fees, board and lodging, living, book, and equipment allowance, fares to go home for vacations). Pocket money amounts to US\$15 per fortnight.

5. Personnel

In 1980, the proportions of national staff at each level were: primary 100 percent, provincial high schools 70 percent, national high schools 9 percent, and teachers' colleges 27 percent. However, there is widespread concern over the problem of standards (Kenehe 1981, Smith and Weeks 1981), in large part due to the problems of expanding and at the same time nationally staffing a system conducted entirely in a foreign language. The problems of providing enough well-qualified teachers and sufficient experienced administrators for the high schools will be apparent from the fact that over a period (1972-80) when high-school enrolments have increased by 67 percent, the proportion of national staff has increased from 17 to 70 percent. Meanwhile, the variety of sources of expatriate teachers (Australia, New Zealand, the Philippines, Sri Lanka, the United States, Canada, the United Kingdom, and the Federal Republic of Germany) and their frequency of turnover mean that this source of staffing can only be regarded as a temporary measure.

Priority in staff-development investment is now focused on improving the numbers and abilities of national staff. Under the Education II programme (1981-87), a World-Bank-aided development project (amounting to US\$37 million), national skills will be developed in certain critical areas—provincial planning, curriculum and staff-development capacities, staffing of teachers' colleges, inservice training, and supervisory skills. Similar developments in high-school staffing are currently being planned.

6. Curriculum Development

Curriculum decisions are (subject to ministerial direction) made by the secretary for education after con-

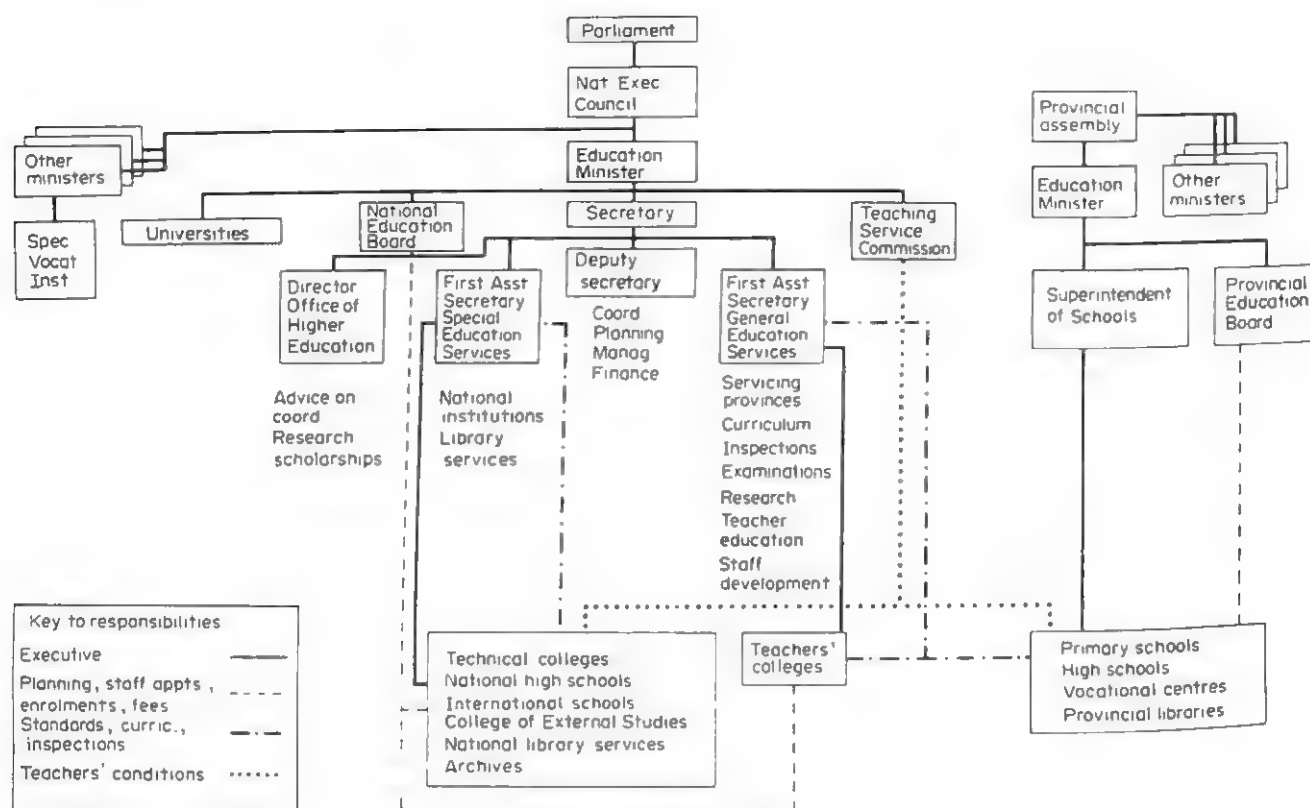


Figure 3
Administrative structure of the educational system

sidering recommendations from subject committees whose members are practising teachers. There has been some delegation to provincial governments of curriculum functions, particularly in the noncore subjects, but little in the way of provincial initiatives in these areas.

The administrative linking of curriculum development, inspections, and teacher education, both pre- and in-service, under a single first assistant secretary, has achieved little integration to date. The recent establishment of an evaluation unit to advise the first assistant secretary on problems of integrating the various elements of the Education II project may set a pattern for greater correlation in the planning and supervision of related activities.

In the 1970s, the decade of independence, the school programme was consciously moved away from the Australian model to make a closer fit to the realities of Papua New Guinea. Primary schooling was shortened from 7 years to 6, commencing at the age of 7 (instead of 5). New curricula were written in all subjects, not only to fit the reduced number of years, but also with the conscious intention of reorienting both content and method to the largely rural environment to which most of the pupils would return. For example, hours given to English were reduced, special attention was given to agriculture and cultural studies, mathematics teaching

was modified to take account of the culturally diverse non-Western cognitions that the pupils brought to school. To take the pressure off teachers to compete for places in the necessarily Western-oriented high schools, secondary selection was converted to a quota basis (equal proportions of grade 6 pupils from each primary school). The grade 10 high-school examination was modified to give greater emphasis to skills at the expense of content. At the same time, with the higher level (grade 10) of intake to teachers' colleges much greater freedom (and much less detailed support) was given to teachers.

The resulting community-oriented curriculum may be embodied in language, materials, and teaching strategies rather too sophisticated for the abilities of the teaching force (Smith and Weeks 1981).

One outcome of the successful drive for a more relevant curriculum has been the backlash of the small but influential minority who see their future and that of their children in the modern international style "enclave" economy (McNamara 1981). This group has been extremely vocal about the decline in "standards" (Kenehe 1981). Many have been willing to pay the annual fee (currently approximately US\$1,500 per child) to enrol their children in the international schools. Since only conspicuously affluent (and often powerful) citizens can afford this luxury, much of the nation's lead-

ership is accused of setting a model of education inappropriate to the needs of the country as a whole.

7. Examinations and Promotion

In 1981, 38 percent of grade 6 leavers went on to high school. The critical determinant of the numbers going on to high school is the number of high schools that have been built. Selection is by the Provincial Education Board on the basis of the results of a nationally set examination, marked provincially, and the aforementioned quota system, now modified to give greater opportunity to superior achievers. The next bottleneck is at grade 10, where approximately 20 percent of those sitting for the School Certificate examination go on to national high schools or universities. Another 50 percent get some form of prevocational training, the remaining 30 percent going on to employment or returning to their villages.

One interesting pilot project attempts to deal with the interdependent problems of relevance and teacher ability in the context of the dysfunctions of selection examinations. This is the Secondary Schools' Community Extension Project (SSCEP), conducted at grades 9 and 10 in 5 high schools since 1978 (Vulliamy 1981). The regular curriculum is taught through practical projects in the school gardens and community, supported by an intensive teacher-retraining programme. Internal assessments, which make a significant contribution to the grade 10 score, are, paradoxically but quite deliberately, based on the pupil's ability to apply the skills taught to solving the practical problems of the out-of-classroom projects.

8. Education Research

A research committee comprised of senior education department executives and including a representative of the University of Papua New Guinea's Education Research Unit advises the secretary for education on research priorities and budgets. The small research budget (US\$20,000) is less significant than the judicious administration to attract maximal amounts of overseas funding and services.

Summaries of research outcomes are available in the *Papua New Guinea Journal of Education* (published since 1962 and currently twice a year), in the series of education bibliographies, and in the extensive publications of the Education Research Unit since 1972. The results of more general social research with important implications for education are published by the Institute of Applied Social and Economic Research (IASER).

The most significant single area of education research over the past 15 years has been into variation in cognitive development as between Papua New Guinea and other cultures and particularly as among the diverse cultures within Papua New Guinea. The implications for cur-

riculum and language of instruction are significant (e.g., Lancy 1983).

9. Prospects and Problems

It would be hard to think of any developing country which could match the educational challenge of Papua New Guinea in respect of the range of educational foundations brought from the home by commencing pupils. On the other hand, few developing countries of its size have received the high per capita level of foreign investment in development maintained in Papua New Guinea during the 1960s and 1970s. Paradoxically, the drive for economic independence through major "development" projects deemed necessary to finance an adequate budget (e.g., the importation of foreign mining staff, the adoption of commercial radio and television) may reduce Papua New Guinea's ability to shape its own development and educational path. The choice is between independence of culture, life-style, and educational programmes and the very real attractions (for those who can afford it) of absorption into a cosmopolitan culture.

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Paraguay

G. Corvalán

Paraguay is a landlocked country of 406,752 square kilometers (105,349 square miles) situated in South America's southern cone and bordered by Argentina, Bolivia, and Brazil. With 3,026,165 people (1982 census), Paraguay has the lowest population density in Latin America, but the population is very unevenly distributed. Only 3 percent of the population live in the western part of the country (the Chaco) which comprises 60 percent of the land. About 70 percent are situated within a radius of 200 kilometers (124 miles) of the capital city, Asunción. This uneven distribution makes the urban-rural dichotomy very important in understanding the characteristics, organization, and dynamics of the educational process in Paraguay.

The official language is Spanish while Guaraní is the national language. According to the 1962 census, both languages are spoken by approximately 50 percent of the population. Some 92 percent of the people, however, speak Guaraní. This has posed critical problems for the educational system, since the official instruction is in Spanish. Despite this, illiteracy decreased from 43.4 percent in 1950 to 14.0 percent in 1972 (Corvalán et al. 1981).

The economy is essentially agricultural, with this sector engaging 50 percent of the economically active population. Paraguay's average annual rate of economic growth was 9.85 percent during the period from 1975 to 1980. Per capita income was US\$353 in 1970, which increased to US\$1,404 in 1980, although it remained very unequally distributed. Paraguay's rural development policies are based on agrarian reform, colonization, and the implementation of integrated rural development projects. These projects have involved the creation of development poles (*Ejes de desarrollo*) outwards from Asunción. At the present time (1983), emphasis is placed on the northern and eastern poles (*Eje Norte* and *Eje Este*). The rural development strategy is directed at the economically most deprived portion of the rural population.

The building of the hydroelectric system, initiated in 1975, has influenced and accelerated the rapid development of the country, especially in urban areas with high concentrations of economic resources. In the rural areas, the effects are seen in a process of deruralization resulting from the increasing demand for labor services in urban areas.

1. General Structure and Size of the Educational Effort

Education comes under the responsibility of the Ministry of Education (MOE) in Asunción, which is in charge of all decision making related to formal education. The dominant theme in education policy is reform based on changes in primary and secondary curricula. The new

curricula represent a move away from the traditional program of studies in terms of subject content, sequence, coverage, and depth. They affect every component of the educational system, including teacher training and retraining, school construction, materials production, and the creation of the regional education centers. The overall objective is to offer more educational opportunities and to make qualitative improvements.

Primary education is free and compulsory for all children from 7 to 14 years of age. The great expansion of the primary-school system (see Table 1) in relation

Table 1
Primary-school enrollment rates 1972-80^a

Sectors	1972	1974	1977	1981
Urban	197,932	195,533	194,702	202,703
Rural	242,219	259,320	283,882	327,380
Total	440,151	454,853	478,584	530,083

a Source: Paraguay 1982

to the rate of socioeconomic development has been achieved due to the convergence of a number of factors: (a) the availability of efficient and dedicated teachers ready to perform even under precarious conditions; (b) the traditional interest of the people—urban and rural—in acquiring more education, and their willingness to build the minimum infrastructure so that they could obtain teachers, materials, and improved facilities from the Ministry of Education; (c) the active role of the government in reinforcing the education sector; and (d) the important flood of foreign aid channelled into education.

In 1981, 95 percent of urban schools had all six grades of the primary level; in the same year, 44 percent of rural primary schools were complete. During the past few years, the ministry has experimented with innovative strategies aimed at alleviating the more critical problems of the rural sector by way of multigrade teaching (*plurigrados*). In 1981, there were 2,198 multiage programs with 55,151 students.

Monolingual rural school children have little opportunity or reason to use Spanish, the language of the schools, and the comparatively poor performance of rural school children reflects their frustration and inability to perform in this second language. Recent studies (Rivarola and Corvalán 1977) have demonstrated the marked negative influence of bilingualism on school achievement. The ministry is attempting to resolve the problem through bilingual education. There are several social and technical issues to be resolved—orthography in Guaraní, the kind of Spanish to teach.

methods of second-language teaching, etc.—although Spanish as a second language is already being taught, on an experimental basis, from grade 1. Unlike the situation in many Latin American countries, in Paraguay, Guaraní does not set apart a culturally unique group concerned with being assimilated into the urban culture. Paraguayans are very proud of their vernacular language which is also used in urban areas.

Secondary education in Paraguay consists of two consecutive cycles: the basic cycle and the diversified cycle, leading to a *bachillerato* degree. Each requires three years for completion. There were 553 secondary schools in 1980, of which 69.6 percent were public and 25.9 percent were situated in Asunción. After graduation, depending on career choice, as many as six years of postsecondary education may be required.

Two types of preparation are offered in the diversified cycle: one in the humanities, which leads to enrollment at one of the two universities or at a teacher-training institute; and the technical track, whose graduates are qualified to enter a postsecondary institution in the commercial, industrial, or agricultural fields.

In 1981, the participation rates were 38 percent for the urban primary school and 61.8 percent for the rural (see Table 1). Repetition is a major problem at the primary level, especially in the rural areas, with the highest rate (20.4 percent) found in grade 1. Dropout is also a critical factor in the rural areas, where 67 percent of all dropout takes place. Participation rates decline after age 12, quite sharply among rural youths. Urban performance in terms of the number of primary-school graduates is better than rural performance.

The great expansion of the basic cycle can be observed in Table 2. Repetition, dropout, and promotion rates are less meaningful measures of output at the secondary

level than at the primary level. It is common for secondary students to drop out and then return to school at a later age or to change schools either within or between years. Youngsters in private schools achieve more in verbal subjects than those in public schools, the language situation again being a problem for low socioeconomic strata and rural students. Since all secondary schools are located in urban areas, there can be no breakdown between rural and urban schools. The urban secondary schools receive the entire flow of rural students into the secondary level.

The two universities in Paraguay are the National University of Asunción (UNA, founded in 1889) and the privately supported Catholic University of Asunción (UCA, established in the 1960s). Both of them have centers in the interior of the country. Enrollment in 1981 at the National University of Asunción totaled 19,171 students and at the Catholic University of Asunción some 7,967.

With a growing number of students graduating from secondary schools, there is strong pressure on both universities to admit more students each year. Both limit the number of new places available through one or more entrance examinations set by the different departments. Beginning in 1973 both universities began to offer short-term degree programs, hoping to alleviate the pressure on the traditional professional schools (law, medicine, and engineering).

2. Finance

Most schools in Paraguay receive their funding from a mixture of government and user sources. Some 13.9 percent of the total national government budget went to the Ministry of Education in 1980, and 14.1 percent in 1981.

Government financing of the current expenditures of primary schools in 1975 ranged between 45.5 percent of the expenditures of rural private schools and 94.9 percent of those of urban public schools. In Asunción, at the primary level, 94.6 percent of public schools' expenditure came from government funds.

Schools are financed quite differently at the secondary level. Their current revenue funds are considerably smaller, and private secondary schools receive only minimal funds from government. Some 76.4 percent of the expenditures of urban public schools are financed by the government; 2.4 percent of those of urban private schools; 60.4 percent of those of public schools in Asunción; and just 3.8 percent of those of private secondary schools in Asunción.

In 1975, the cost per student per annum in public schools was estimated to be US\$96.85 and in a private secondary school US\$156.76. Public primary-school unit costs are US\$38.86 and US\$48.45 for rural and urban students respectively. In Asunción, public primary-school unit costs are US\$46.54. Unit costs are lower in rural schools (and public primary schools in Asunción spend less than urban schools outside Asunción). This

Table 2
Participation in the basic cycle of secondary schooling by sex 1975–80^a

	1975	1980
<i>All schools</i>		
Males	25,693	39,500
Females	23,710	36,614
Total	49,403	76,114
<i>Private schools</i>		
Males	8,610	10,333
Females	8,905	10,813
Total	17,515	21,146
<i>Public schools</i>		
Males	17,083	29,167
Females	14,805	25,801
Total	31,888	54,968

^a Source: Paraguay 1981

is due to larger class sizes in rural (31 pupils) than urban (28 pupils) schools; less highly qualified teachers in rural (68.8 percent first-category teachers) than urban (94.4 percent) schools; and a higher proportion of incomplete schools in rural (64.5 percent) than urban (6.4 percent) areas.

3. Supply of Teachers

Disparities in teacher qualifications are a significant constraint on improving the educational system. *Lego* (uncertified) teachers are assigned to rural areas, where the learning environment is already adverse.

A new plan was introduced in 1973 called *Sistema de Formación Docente* which adds two additional post-bachillerato years of study for preparing primary teachers. A further two years, after completion of the primary-teacher training cycle, is required for preparation as a secondary-school teacher. These additional years of full-time study and specialization allow for additional courses (i.e., in bilingual education) and give the teaching profession a higher educational status. Teacher training and retraining programs are under way at the *Instituto Superior de Educación* (ISE) and at the regional education centers distributed in different geographical locations. Retraining is a complex task because a large number of teachers have graduated in the traditional program, and there are difficulties in bringing about changes in their behavior and attitudes. In the past, the teaching-learning process was based on memorization, evaluation through examinations, etc.

4. Educational Research

There has been a great deal of activity in educational research. In government and privately sponsored research, interest was placed in the 1960s on repetition, dropout, and different aspects of school achievement. Later, around 1972, other topics such as teachers and their role in the teaching process were also researched. Since the early 1980s, there has been a growing interest in bilingualism and school achievement from two different perspectives: on the one hand, the relationship of bilingualism to school problems such as repetition and dropout and, on the other, a better understanding of the sociocultural scope of bilingualism among teachers and the use of the native language in the classroom. There has been some interest in higher education, based on the university census. Studies include those on university-state relations, universities and political systems, and university student movements.

It is noteworthy that the emphasis in educational research has been on primary education while there has been very little work on secondary education, with the exception of studies of technical and vocational education.

5. Major Problems

Although a considerable amount of information on education in Paraguay has been collected, most of it appears to be of only peripheral value in planning systematic policies. Excessive emphasis is placed on quantitative data, while little attention is paid to qualitative analysis.

The low salaries of teachers and administrators and a greater work load due to the new curricular reform have reduced enrollment in teacher-training programs, posing serious problems for the schools, especially in rural areas. Particular needs include personnel skilled in the evaluation of education, improvement of testing procedures, and evaluation of individuals and groups.

A major effort must be undertaken in the 1980s and 1990s to understand the importance of informal education, since formal education serves only the population that is included within the primary- and secondary-school age bracket. On the other hand, the tremendous expansion of primary and secondary education is exerting strong pressure on the limited facilities of the two universities, which are not able to admit large numbers of students. There is growing evidence that the curricula, especially for rural youth, must be more closely related to the real personal lives of the children, which are oriented to agriculture. This concerns the content of the secondary curriculum, in particular, which is eminently urban.

To convince students that economic growth and prosperity require preparation for technical positions, school personnel should be encouraged to change their traditional attitude toward technical work as a low-prestige activity.

Language will continue to be a serious problem so long as there is not a systematic bilingual program at the national level. Teachers and parents need to be convinced of the value of having two languages.

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Peru

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Peru, the third-largest country in South America, stretches from the equator in the northeast to about 18 degrees latitude south. Over 2,414 kilometers of precipitous Pacific coast forms the western boundary of one of the world's unique tropical climates. The Andes Mountains, which parallel the coast not more than 129 kilometers east of the Pacific ocean, collect on their eastern slopes all of the precipitation from the Atlantic trade winds, leaving the Pacific coastal strip arid.

Of the nation's total population of over 17.3 million, nearly half reside in the cities along the Pacific. This western region has been the center of government, commerce, and education since the days of Spanish colonialism. As a result, the coast, and the capital city of Lima in particular has attracted those people seeking advancement, thus producing an explosive population growth since the 1960s.

To the east of the coastal region, the semitropical valleys and plateaus of the Andes Mountains are punctuated by peaks rising to 21,000 feet. About half of Peru's population live in the Andes in approximately 1,500 agrarian Indian villages and towns dominated by mestizos (Peruvians of mixed European-Indian heritage). Although the national language in Peru is Spanish, people in the Andes often still speak Quechua or Aymara Indian dialects, a practice that poses problems for classroom teachers and for the publishers of educational reading material.

The coastal region and the Andes make up only 40 percent of the nation's land area. The remaining 60 percent lies between the eastern foothills of the Andes and the swampy lowlands of the Amazon River basin. This area is sparsely populated by mestizo farmers and merchants and by several Indian tribes. Since neither the ancient Inca Indians nor the Spanish penetrated the region to any significant degree, this *oriente* tends to lack the hierarchical, almost caste-like society that pervades the nation's other regions.

Present-day Peruvian social structure traces its roots to the Spanish conquest. During the colonial period, the Spanish placed themselves at the pinnacle of an already highly structured society. Their contact with the subjugated Indians occurred primarily with Inca leaders. Today, individuals of the dominant class are called criollos, comprising 10 percent of the population and enjoying a disproportionate share of the wealth

and power. As criollos mixed with Indians over the centuries, mestizos came to form today's most numerous sociocultural group. Mestizos populate the larger cities and towns of the mountain region, where they have dominated the social scene as businessmen, traders, or farmers of the better plots. Although mestizos may live in rural areas and possess the physical characteristics of Indians, they have accepted the ethos and values of the Spanish-dominated culture.

The indigenous Indians comprise about 32 percent of the total population, with approximately two million in the mountain region, occupied primarily in subsistence herding or farming on marginal lands, thus encouraging social insulation and a continuance of their original language and culture. Although most of the Indians have remained isolated, increasing numbers of them today are trying to assimilate themselves into Hispanic culture. Those who do abandon their villages and culture are called cholos. Because cholos want what mestizos and criollos have, they are easily exploited and often live in unfortunate circumstances.

The Spanish colonists accepted and used Indian society as the basic building block for their own society. When the Spanish installed themselves at the top of the social structure, they created a social hierarchy whose bottom and middle rungs were populated by Indians, mestizos, and cholos. Implicit in the hierarchy was the idea of the superiority of higher levels. When this social system was translated into Peruvian education, it created a dichotomy that has persisted into the present. Peruvian education has traditionally tried to assimilate the disparate elements of the society, while at the same time playing a powerful role in maintaining the class structure.

The dichotomy becomes more apparent when one views the aims of colonial education. Education was designed, primarily, to Catholicize the Indians and, secondarily, to teach them how to function within a system dominated economically and politically by the Spanish. A third aim was to train clergy and personnel to operate the lower positions of the viceregal bureaucracy. Thus, the rulers of the colony wanted the Indians to play not only a productive role, but also the most subservient role.

Peru gained independence from Spain in 1825, at which time the new government accepted the

responsibility to provide public education. Between 1823 and 1933, each of the 10 constitutions that were consecutively issued contained provisions for extending education to all children. However, in reality only three significant educational reforms occurred over the century.

The reform of 1855 organized public schools into primary and secondary levels. In 1875, reformers tried to introduce the French system of *lycées* into the secondary system, and between 1904 and 1908 both the finance and administration of education were centralized and the budget of the Ministry of Education was doubled to 17.2 percent of the national budget. Nevertheless, the aim of these changes, to increase educational equity in the population, was nearly nullified by the strict social-class distinctions and by the intransigence of conservative political and church leaders.

The first concerted modern effort to provide a basic education for greater numbers of school-age children occurred between 1944 and 1962. During this period the *Servicio Cooperativo Peruano-Norteamericano de Educación* (SECPANE) was jointly funded and staffed by educators from Peru and the United States. The object of their efforts was to be the large Indian population of the Andes.

Among other things, SECPANE began the system of *núcleos*, in which there was a central school of six grades, with the surrounding region containing as many as 10 three-grade schools. The central schools were well-staffed and supplied with materials and audiovisual equipment. Teachers in the schools surrounding the *núcleo* were able to receive help from the central school in implementing the new curriculum.

However, in 1962, SECPANE ended and the accomplishments of the previous 18 years were essentially undone. As support money diminished and the materials and equipment disappeared, the ministry converted *núcleo* schools back into independent one-teacher schools. There were several reasons for the end of SECPANE. First, most of the innovations and the administrative leadership came from the North Americans in the program. Their solutions were typically North American and did not consider, for example, that the only available teachers were mestizos, who would be little interested in helping the Indians rise in the social order. Furthermore, the Ministry of Education as a whole had played only a minor role in the project. As a result, ministry personnel were perhaps not as adept in operating the program on their own as they might have been if they had played a more involved role from the beginning. In short, SECPANE created a North Americanized alternative to the local system of education, an alternative that flourished because of tremendous infusions of money and technology and, in particular, because it was insulated from the conservative nature of the national school system.

Modern Peruvian education is best explained by a description of the 1972 reform, in which the general

aims of education became those of preparing people for work that would contribute to (a) the development of the society, (b) the structural changes in the society, and (c) the society's "self assertion and independence within the international community" (Nemeth 1977 p. 3). Placing boys and girls together in the same classes has been an important aspect of the reform along with greater consideration for the needs of linguistic and cultural subgroups. According to the reform plan, schooling from the primary grades through the university is to be free, with all students expected to receive equal educational opportunities. The *núcleos* were revived in the form of a kind of local school district.

1. Structure of the Educational System and Enrollment

Public schooling begins when children are still infants, offering them as much as six years of preparation for elementary education. An attempt is made during the first four of these years to involve children and parents both formally and informally in schools. The final two years are the equivalent of kindergarten and serve as a transition to basic schooling. The objectives of the initial six years are to detect any learning disabilities young children might suffer and to impart good health and nutritional and environmental standards to the family. Unschooled parents are encouraged to participate so that important concepts of child development will be extended into the home. The number of young children served by this initial-education program grew from 74,318 at the beginning of the 1970s to 208,538 in 1979, with the number of child-care centers rising from 639 to 3,018 and the number of teachers tripling from 2,016 to 6,093. Around 72 percent of the centers in 1979 were public and 28 percent private. Some 97 percent of the teachers are women (UNESCO 1982).

Basic education (*educación básica*) is the compulsory segment of schooling for children from 6 to 15 years of age. It consists of three cycles, the first lasting four years, the second two years, and the third three years. The reformed curriculum follows more practical objectives than did the previous course of study, with the new goals including (a) the development of a critical conscience and a sense of self-reliance, (b) basic preparation in scientific, technological, and humanistic knowledge, (c) the development of an ability to perceive and take part in the transformation of Peruvian society, and (d) preparation for a useful occupation (Nemeth 1977 p. 8). The Ministry of Education prescribes the content areas of language, mathematics, social and natural sciences, art, physical education, religion, and manual arts. Within general guidelines for each of these areas, the curricula are flexible so as to allow for variations suited to local conditions.

A separate course paralleling the regular basic-education program, called *básica laboral*, is offered in the evenings for those 15 years of age and older who have

not already completed the nine-year compulsory sequence. The government has founded centers entitled *Centros Educativos de Calificación Profesional Extraordinaria* (CECAPE), which provide further vocational education in a nonformal setting. Here again, the curriculum may be flexible, even to the point of encouraging self-instruction or independently formed and self-directed study groups. The CECAPE are being coordinated with the nation's agrarian reform, and private industry is encouraged to become involved in training programs.

In both forms of basic education, a student's progress through the grades is flexible in terms of time, and, theoretically at least, is determined by the achievement of specified instructional objectives. Completion of either program entitles the student to a certificate (*certificado de estudios*), which describes the student's academic, social, and work skills. By 1979, the number of students in basic-education programs was 3,117,055, an increase of 33 percent over the 2,341,068 in 1970. The teacher-pupil ratio had risen from 1:35 in 1970 to 1:39 by 1979 (UNESCO 1982).

Following the basic-education sequence, a reformed system of high schools for professional education (*escuelas superiores de educación profesional*, ESEP) provides students with instruction in basic skills and in one area of emphasis as preparation for a particular career. The schools are designed for both the university-bound student and the one wishing only to focus on a specific vocation. The marketable skills taught include accounting, animal science, auto mechanics, chemistry, electronics, mining, nursing, statistics, and textiles. Students completing the prescribed course of study of general education and an area of occupational emphasis receive the equivalent of a high-school diploma (*bachillerato profesional*), which is required for entrance to university. Those who elect to focus only on vocational preparation, such as for forestry or the petroleum industry, are awarded a certificate describing their special skills.

The reformed system is in the process of replacing the nation's traditional approach to education. The greatest difference between the old and new systems is that in the new schools all levels are on a single track. Theoretically at least, any student may pass freely from initial education, to basic education, through advanced secondary education, and into university. The only requirement is successful completion of the previous cycle. Those who choose to terminate their studies at any intermediate point may then receive a certificate describing their entire set of academic, vocational, or professional accomplishments. The system is free of cost to students at all levels, except for minimal registration and transcript fees at universities and for the cost of books above grade 3 of the elementary school.

Before 1972, Peruvian higher education included universities, higher normal schools, pedagogical institutes, and higher technical institutions. This system is gradually undergoing transition. Traditionally, universities have been composed of independent faculties to which

students have applied for admission. Since more candidates apply than can be admitted, the faculties have used entrance examinations to determine which students to admit.

Under the reform being attempted in the 1970s and early 1980s, advanced education begins at grade 10 in the higher schools of professional education. Subsequently, at the university level, the student's area of specialization may be the same as it was in the professional school or may be changed. The first university degree, normally awarded after four years of study, is the *licenciatur*. After two or three more years of study, the *maestría* or *doctorado* degrees may be earned. In 1978, the higher education system produced 6,108 *licenciatur* graduates, with 1,095 of them in professional education. Enrollments in tertiary institutions between 1970 and 1979 rose by 66 percent, from 126,234 to 210,083 students (UNESCO 1982).

2. Administration

The reform law of 1972 began an era of decentralized educational administration. At the top of the structure is the minister of education, who presides over nine regional education directors. Subordinate to the regional directors are zonal administrators who supervise local school districts, or *núcleos*. The Ministry of Education contains four general directorates, in charge of preschool and basic education, basic evening adult education, higher education, and extension education respectively. Also within the ministry is the *consejo superior de educación*, a body of advisers made up of 10 representatives of educational organizations and other enterprises.

At the local level, each *núcleo* is the home of a central school offering up to nine years of basic education, with the central school serving 10 satellite schools distributed throughout its district. The director of the *núcleo* administers all 11 schools with the aid of a community education council composed of teachers (40 percent), parents (30 percent), and community representatives (30 percent). Councils are responsible for channeling local resources into education in ways that make the schools responsive to local needs.

One unfortunate outcome of the decentralization program has been a degree of confusion and inefficiency resulting from the failure of planners to provide sufficient guidance for the proper implementation of community education councils. An unforeseen result has been wide local disparities in the interpretation of the reform program so that such goals as those of the national literacy program have not been adequately achieved (Pinon-Espinoza 1979 p. 184).

3. Curriculum Innovation—Bilingual Education

The sincerity of the Peruvian attempt at educational reform may be recognized in the bilingual-education program of recent years. In the past the government

did not value local languages and cultures but, rather, required that Spanish be the sole medium of instruction. From 1780 until the 1972 reform, the Quechua Indian language had been prohibited in the educational system, with particularly disastrous effects on the southern states of Apurimac, Ayacucho, Puno, and Cuzco, where 60 percent or more of the population speak only their native tongue. For example, in 1961 over 2.6 million Peruvians over age 5 spoke Quechua.

Since the bilingual-education act was passed in the 1970s, policies toward the languages of the indigenous peoples have changed, in that the act stipulated that (a) education should be available in the vernacular when needed, (b) the socioeconomic necessities of each community should be taken into account to encourage the valuation of the native language and culture, and (c) judgments of the educational worth of any regional dialect should be avoided in order to prevent the eradication of "unesteemed dialects."

One of the first obstacles to overcome in implementing the bilingual program was that of producing a Quechua alphabet of 16 consonant and 5 vowel symbols. Two other problems were those of developing an appropriate curriculum with supporting materials and of deciding what percentage of instruction should be in the local language. In 1977, when implementation began on a broader scale, language skills were taught in both Spanish and Quechua. Mathematics was taught in Quechua only, and Spanish was taught as a second language. By 1980, Quechua reading materials had been developed as the foundation of the reading program in the lower grades of basic education, with the content drawn from rural life. As students gain proficiency, they eventually transfer to Spanish reading.

4. Teacher Training

In regard to teacher preparation, the traditional system of schooling has allowed for several ways in which students might earn teaching credentials. First-class teachers, who constituted 69 percent of the teaching

force in the mid-1970s, are graduates of secondary or higher normal schools, pedagogical institutes, or universities offering teacher-training programs. Second-class teachers have completed at least secondary school and some postsecondary education courses. Third-class teachers, who predominate in rural schools, may have completed only primary education, without additional professional education courses.

According to the latest educational reform plan, all teachers in the future will be trained at the university level. However, until such a goal can be reached, the urban and rural normal schools and the pedagogical institutes will continue to play an important role in teacher education.

5. Major Problems

Educational reform since the early 1970s has begun to alter the nature of schooling in Peru in major ways. The reform has been slowed, however, by inadequate administrative guidance and coordination, by a poorly defined national strategy for implementing local participation, and by an inadequate supply of well-prepared administrators and teachers. It appears likely that these factors will be key focuses of planning and assessment in the future.

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Philippines

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The Philippines is an archipelago of some 7,107 islands scattered over some 1,295,000 square kilometers (500,000 square miles) of oceanic waters and with a total land area of 300,000 square kilometers (115,830 square miles). In length, it stretches nearly 1,850 kilometers (1,150 miles) between the southern tip of Taiwan and the northern parts of Borneo and Indonesia. In breadth, it is about 965 kilometers (600 miles).

Luzon and Mindanao comprise the two largest islands, which together represent two-thirds of the total land area of the country. The island character of the

nation makes it difficult and expensive to supervise schools in the different parts of the country.

The Philippine population of 52 million (1984) is unevenly distributed throughout the country due to geographical, social, and historical forces. An average Filipino family raises five children. Most Filipinos reside in rural areas and six out of seven live in the 41,114 *barangays* throughout the country. The urban population is concentrated in Manila and in its suburban cities and towns. Some 46 percent of the population is under 15 years of age. Persons aged 16 and above

are classified with the "older half" of the population. Filipinos in the senior bracket of 65 years and older constitute less than 3 percent of the population. A young age structure is the result of a sustained high birth rate and a steadily declining death rate due to improved medical services and living standards and to better health. The population growth rate was 2.4 percent in 1980.

The National Economic Development Authority is the overall planning agency responsible for the formulation of national policies and economic and social development plans. The development plan at the beginning of the 1980s aimed to attack poverty, unemployment, illiteracy, malnutrition, and other inadequacies in the basic necessities of life. The industrial sector is being rationalized toward greater export competitiveness and stronger linkages with the countryside. To stem the rapid migration to more developed areas, industries are being dispersed to outlying regions.

Agriculture represents about a third of the gross domestic product of the Philippines and supplies a large share of exports. Some 10 million acres are under cultivation and about two million acres grow two or more crops a year. The nation has a variety of natural resources, with copper as the major mining product.

The country's 7,107 islands and extensive coastline provide a natural fishing ground, whose waters cover five and a half times the land area.

The first Republic of the Philippines was inaugurated on June 12, 1898. The present Philippine government is a blend of the presidential and parliamentary system. The chief political goal is to give more autonomy to local government in order to achieve an accelerating rate of economic, social, and cultural development in the countryside.

The 1973 Philippine constitution commits all educational institutions to inculcating love of country, to teaching the duties of the citizenship, and to developing moral character, personal discipline, and scientific, technological, and vocational efficiency. The educational system aims to:

- (a) Provide a broad general education that will assist each individual attain his or her potential as a human being; enhance the range and quality of individual and group participation in the basic functions of society; and acquire the essential educational foundation of his or her development into a productive and versatile citizen.
- (b) Train the nation's labour force in the middle-level skills required for national development.
- (c) Develop the professions that will provide leadership for the nation in the advancement of knowledge for improving the quality of human life.
- (d) Respond effectively to changing national needs and conditions through a system of educational planning and evaluation.

Furthermore, the educational system aims to reach out to educationally deprived communities in order to give meaningful reality to their membership in the national society, to enrich their civic participation in the community and national life, and to unify all Filipinos into a free and just nation.

The New Elementary School Curriculum (NESC) orients elementary education to national development and reflects research-directed curricular change. Its scope covers the general education of the child—as a person, as a citizen, and as a productive agent. Its thrust is intellectual growth through which human, civic, economic, and cultural development is enhanced. The secondary-school program is also aligned to national development goals. Tertiary education is directed at providing better quality education, developing middle- and high-level personnel, intensification of research, and development of extension services. Vocational/technical education is directed to develop and train the nation's human resources in the competitive skills required for socioeconomic programs. Nonformal education complements and supplements formal education. Its targeted clientele includes the out-of-school youth or school learners, the unemployed, and unschooled and partly schooled adults (7–24 years of age) who desire to continue their education.

1. General Structure and Size of the Educational Effort

Formal education in the Philippines starts at the age of 7. It consists of 6 years of elementary education, 4 years of secondary education, and from 4 to 8 years (depending upon the degree being pursued) of college education. About 0.5 million children attend private preschools. Nearly 9 million children were enrolled in primary school in 1981 (as compared with 5 million in 1966 and 3 million in 1945). Just over 2 million were enrolled in secondary school and just over 1 million in tertiary education in 1982. Both public and private secondary schools operate in the Philippines.

Public secondary schools are classified according to the government office that gives them financial support, such as municipal, provincial, and city schools. Among the several types of secondary school, the academic variety offers a four-year college preparatory curriculum. Most of the private schools offer a general curriculum, which is designed to meet the needs of students who plan to go to college as well as those students who will seek employment or become homemakers immediately after graduation. The general curriculum is now the standard type of the public secondary schools of the Philippines except for the trade, agricultural, and normal schools. Trade schools offer two-year and four-year secondary studies. The main aim of the two-year curriculum is to provide intensive training to fit students for immediate employment. Agricultural and rural high schools offer a secondary agricultural curriculum, which

is designed to fit students in the farming regions for agricultural occupations and for rural homemaking (female students take courses in home economics). A secondary fisheries curriculum is designed to give technical training in fishing.

To take care of the needs of special groups of students, the government has established special secondary schools, such as the Philippine Science High school for gifted and scientifically inclined students, the Philippine High School for the Arts for those gifted in the arts, the School for the Deaf, the School for the Blind, the Correctional High School for juvenile delinquents, and the Boys Town School for orphans and underprivileged children.

Graduates of any four-year secondary school are eligible for admission to college or university.

Private schools are educational institutions maintained by private individuals or corporations. The government does not give such schools any direct financial aid but, nevertheless, supervises them.

Private higher education is available in sectarian (owned and operated by religious corporations) and nonsectarian institutions and includes universities, specialized and advanced schools, four-year colleges (with two or more degree courses), four-year colleges (with one degree course of study), theological schools, two-year junior colleges, collegiate business schools, hospital schools (for nursing and midwifery), and music schools.

Nonformal education is provided in state and private colleges and universities in the 13 educational regions of the country and in the communities. Such education may be classified under seven program areas: functional literacy; vocational/technical skills training; socio-civic citizenship education; cultural development; sports and physical fitness development; leadership training; and mass-media education.

A community-oriented nonformal educational activity is the School-On-the-Air Program or *Lingap ng Pangulo sa Barangay* [Concern of the President for the Village], a program aimed at bridging the communication gap between the government and the people in the rural areas by providing them with information on the latest technology related to farming and food production, home industries, community development, nutrition, pollution control, family planning, health services, natural resources, conservation, and other matters.

A variety of other government agencies in such areas as agriculture, welfare, and community development undertake nonformal educational activities specifically tailored to the needs of their target clientele.

In the nongovernment sector, organizations involved in nonformal programs include the Philippine Rural Reconstruction Organization, National Federation of Women's Clubs in the Philippines, Young Men's Christian Association, Population Center Foundation, National Council of Churches in the Philippines, and the Foundation for Youth Development of the Philippines.

2. Administration

The Ministry of Education, Culture and Sports (formerly the Ministry of Education and Culture), through the office of the minister, has direct-line supervision over the bureaus, cultural agencies, and regional offices. The ministry is responsible for developing and implementing programs in education. It coordinates and works closely with the Southern Philippines Development Authority which has absorbed the functions of the Commission on National Integration in all matters that pertain to the educational and cultural development of the cultural minorities.

The bureaus of elementary, secondary, and higher education, bureau of continuing education, bureau of vocational education, and bureau of sports development of the ministry exercise functional supervision over the regional and field offices. Thirteen regional offices, reporting directly to the minister of education, culture, and sports, are responsible for the supervision and evaluation of activities of the ministry within the region. This set-up is intended to make education more responsive to local needs. Each regional office has an administrative division, a finance and budget division, an elementary-education division, a secondary-education division, and a higher education division.

Under the regional offices are provincial and/or city school divisions headed by superintendents and one or two assistant superintendents who are responsible for the overall coordination and supervision of the divisions. Under the school divisions are district offices headed by district supervisors, who exercise direct administrative and supervisory functions over the principals and teachers in the district.

The Office of Nonformal Education, now the Bureau of Continuing Education, was created in recognition of the fact that one million out-of-school children, youth, and adults who are beyond the reach of formal education need to be provided with education so that they can participate more effectively in national development. The office serves as the central base of operations to carry out the twin functions of taking overall responsibility for nonformal educational programs, including those of state and private schools, colleges and universities; and of establishing linkages with institutions having similar programs, both government and nongovernment, to ensure effective and integrated implementation of those programs.

State and private schools, colleges, and universities have their own nonformal education centers whose directors administer their respective nonformal education programs.

3. Finance

In 1947, the education share of the national budget was 56,376,641 pesos (P). By 1983, this had increased to P7,344,985,000, which is 11.87 percent of the total national budget. This amount does not include the

appropriation for school buildings, which is included in the budget of the Ministry of Public Works and Highways. The appropriation for the Ministry of Education, Culture, and Sports does not include the budget for the state colleges and universities.

Of the total amount allocated for the Ministry of Education, Culture, and Sports in 1982, P237,466,000 was for the regions and P34,634,000 for cultural agencies. For the three staff bureaus, P13,110,000 was appropriated as follows: Bureau of Elementary Education, P4,236,000; Bureau of Secondary Education, P4,420,000 and Bureau of Higher Education, P4,454,000. The appropriation for educational services was P104,957,000; for general administration and support services, P108,453,000; and for the Board of Censors for Motion Pictures P1,242,000. The budgets for education for selected years are shown in Table 1.

A large number of scholarships for students come from the National Scholarship Center, an office in the Ministry of Education, Culture, and Sports which seeks to democratize access to higher education and equalize educational opportunities for poor but intellectually endowed students. Given the same special attention are those from the countryside, including members of national cultural communities, hill tribes, and qualified returnees or former dissidents who have returned to school to take up professional and occupational courses geared to regional personnel needs.

4. Personnel and Teacher Training

In 1984, there were 7,618 elementary-school principals, 6,935 elementary-school head teachers employed by the government. There were 3,354 government locally funded and nationally funded secondary schools which were headed by either a head teacher or a principal. There were 281,456 government and private elementary-school teachers, 104,177 government and private secondary-school teachers, 72,537 tertiary education faculty members, and 1,631 medical, nursing, and dental personnel employed in the school service. While there is no shortage of teaching personnel, there is a shortage of medical personnel—of physicians, dentists, and nurses.

Table 1
State budget allocated to education, 1961–86

Year	National government budget	Budget for education	Percentage of allocation
1961	1,092,919,070	351,827,387	32.19
1971	3,716,215,837	1,085,802,469	29.21
1975	14,499,714,500	1,910,224,000	13.17
1981	50,319,957,000	5,113,636,000	10.17
1983	61,837,776,000	8,142,547,000	13.7
1984	53,450,490,000	8,082,376,000	15.12
1986	67,409,044,000	8,712,162,000	12.92

The preservice training of teachers includes a four-year course leading to a degree in Bachelor of Science in Elementary Education for elementary-school teachers, a four-year course leading to a degree in Bachelor of Science in Education for secondary-school teachers, and programs leading to the Master of Arts in Education, Doctor of Education, and Doctor of Philosophy degrees for college instructors, professors, administrators, and school heads.

To enhance their effectiveness, the personnel of the Ministry of Education, Culture, and Sports undergo various inservice training programs designed for those holding particular types of educational positions.

5. Curriculum Development and Teaching Methodology

Curriculum development at the elementary, secondary, and tertiary levels is a joint undertaking of the curriculum-development divisions of the Ministry of Education, Culture, and Sports, chiefs of curriculum development centers, selected teachers and supervisors, representatives from private and state colleges and universities, and representatives from the professional associations. To achieve relevance in the curriculum, the views and expertise of the private sector, other professionals, and parents are tapped through a series of consultative conferences.

The basic curriculum, while centrally developed, is the result of the work of a multidisciplinary group drawn from the field and the central offices. The regions are encouraged to modify the content of the curriculum for the different learning areas to suit local situations. For this purpose, the capability of regional personnel for curriculum development is continually strengthened. This is necessary for a gradual decentralization of curriculum development.

Learning materials are prepared by curriculum specialists from regional and central offices or from the teaching and supervisory staffs. The materials are validated and refined on the basis of ministry guidelines with the help of teachers and experts from institutions and other agencies in the different regions.

Books and other instructional materials for the tertiary level are prepared by experts on the subject. Then tryout copies are reviewed by instructors with regard to the validity, relevance, and usefulness of the materials.

The curriculum is disseminated to the regional offices through a ministry order for effective implementation by the different divisions. Seminars are organized for disseminating the curriculum, and subject supervisors oversee implementation in the schools. Regional and central-office personnel monitor and evaluate implementation. Teachers have been encouraged to adopt a systems approach to teaching, one that is goal oriented.

In 1983, a new curriculum was scheduled for grade-by-grade introduction. One major problem has been

how to prepare 350,000 teachers for its implementation. In view of the rapidity of change, it has also been imperative to restructure higher education courses to make them responsive to current needs and trends. How to dovetail curriculum development with personnel needs so that there will not be an oversupply of people with specific training is another problem.

6. Examinations, Promotion, and Certification

Pupils are annually promoted from one grade to the next. However, acceleration of exceptionally bright pupils to the next higher grade (grades 1-5 only) may be made at any time during the year. In the elementary grades, the basis of promotion is the general average of the ratings in the subjects taught in the grade.

In grades 1-6, pupils are rated four times during the year in every subject taught in the grades. A cumulative rating system is used as the basis of promotion. The pass grade is 75 percent. The periodic ratings are reported to the pupils and to their parents through individual report cards. After satisfactorily completing the six-year elementary curriculum, the pupil receives a certificate of graduation from the elementary school. No examination is required of public elementary pupils for enrollment in public secondary schools. Private schools, however, administer an entrance examination to prospective students.

All high-school graduates seeking admission to post-secondary degree programs requiring a minimum of four years' study are required to pass the National College Entrance Examination, administered by the National Educational Testing Center. Some institutions require that applicants pass their special entrance test for admission.

7. Educational Research

Educational research has continued to expand since the middle 1960s. A number of research projects have been aimed at problems of unprecedented educational expansions, which have proven difficult to solve in view of limited educational resources. As one example of research efforts, a comprehensive survey of the public schools of the Philippines was conducted in 1960, resulting in major recommendations for improving the quality of educational services, expanding the educational services, and providing better financing for schools.

The Survey of Outcomes of Elementary Education (SOUTELE) in 1975 was an attempt to ascertain empirically the extent to which the system had succeeded or failed in its efforts to provide elementary education. One of the important findings of the 1975 survey was the need for restructuring the elementary program. Recommendations included fewer subjects, greater flexibility in scheduling, and more development orientation than that of the 1970 curriculum. It also recommended the development of a program for overcoming the learning disadvantages of pupils by

providing physical resources, teacher training, objectives, and educational processes responsive to the needs of rural and depressed urban areas.

In 1979, a research project on literacy retention in Philippine elementary schools, undertaken by the Educational Development Project Implementing Task Force along with the National Educational Testing Center, showed that (a) there are two clearly defined groups of out-of-school youths (rural and urban); (b) grade 3 appears to be the threshold grade level at which permanency of literacy and numeracy is at its optimum; and (c) learning goes on outside schools.

A study of the teaching of English as a second language and of its use as the medium of instruction among Tagalog-speaking elementary-school children revealed that proficiency in English is directly related to the number of years in which it is used as a medium of instruction, and that the average level of literacy in Tagalog is not closely related to the number of years in which it has been used as a medium of classroom instruction. At the end of grade 6, the group that used English as a medium of instruction in grades 1-6 displayed, on the whole, the highest level of achievement, whether the tests were given in English, in Tagalog, or bilingually.

The Experimental Elementary Education Program was launched in 1978 in an attempt to make the elementary-education curriculum relevant to present-day needs and to make it flexible in scheduling. Other research studies at the elementary-school level include those focusing on (a) factors affecting the technology transfer of Instructional Management by Parents, Community, and Teachers (IMPACT); (b) baseline research on teachers and teacher education; (c) the readiness of the secondary-education system for the Program for Decentralized Educational Development (PRODED); (d) trends in teacher supply and demand; (e) the status and influence of preschool education; (f) the effectiveness of a self-contained classroom organization; (g) homeroom activities; and (h) service contracting.

The Bureau of Secondary Education is conducting research on the development and evaluation of curriculum frameworks for mathematics, communication arts, and science, as well as a study of homeroom guidance. In higher education, there are projects on agricultural-education outreach and radio-training-schools management.

8. Major Problems

The vast size of the elementary-school population has spawned a number of problems. The combination of the increase in population and of the number of schools and classrooms destroyed by typhoons has resulted in the need to build around 11,000 classrooms a year. Facilities in the schools are inadequate. While some classrooms are well-equipped, many are not. Most rural schools have barely adequate or inadequate facilities.

There is low achievement in language skills and arithmetic and an achievement gap between depressed and developed areas. This low-performance level was traced by SOUTELE to a shortage of instructional materials and disparities in the allocation of resources. The dropout rate in 1980 was 3.8 percent, or nearly 300,000 pupils. Only 69 percent of pupils complete elementary school. Supervision is inadequate in that supervisors are unable to visit schools as frequently as planned especially in the depressed areas. This is due primarily to inadequacy of funds.

Two programs have been implemented to cope with the problems of a large quantity of students and an inadequate quality of achievement. The Program for Decentralized Educational Development (PRODED), 1982-85, was designed to improve achievement, increase participation rate, decrease dropouts, improve the pupil/teacher ratio and thus increase the efficiency of elementary education by means of a reallocation of resources, new curricula, improvement of facilities and equipment, staff development, and technical assistance. The Program for comprehensive Elementary Education Development supplements PRODED by developing instructional materials, physical facilities, and teachers and by improving pupil and teacher welfare, school health, and nutrition.

The Ministry of Education is also undertaking programs to improve secondary schooling. New curricula together with diagnostic tests and remedial materials are being produced. Homeroom guidance procedures are being improved. A practical arts program is being restructured and ways of improving the learning of values are being tried out. A series of training programs to raise the level of administrative, supervisory, and instructional staff are being initiated.

The Bureau of Higher Education is reformulating policy in order to rationalize higher education so that it contributes more effectively to the attainment of the goals of national development by producing graduates to fulfill top-level and middle-level personnel needs.

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Poland

F. Januszkiewicz

Following the Second World War, significant changes occurred in Polish boundaries. Part of Poland's territory in the east (inhabited by Ukrainians, White Russians, and Lithuanians, but where Poles constituted a minority) was included in the Soviet Union. On the other hand, Poland regained a considerable area in the west and north which had historically being part of

Poland. These changes caused a large-scale migration of the Polish population from the former Eastern Territories to the Regained Territories from which, in turn, the population of German origin migrated. This had a significant impact upon the structure of education in post-war Poland. Changes in the social system exerted an even deeper influence upon education. In 1944,

Poland turned away from capitalism and became a socialist state in which a communist party (the Polish United Workers' Party) took a leading role.

The Polish People's Republic covers an area of 312,683 square kilometres (120,696 square miles). In 1981, the population totalled just over 36 million inhabitants. Nearly 60 percent live in urban areas. The birth rate is declining. Administratively, Poland is divided into 49 provinces and 2,070 communes.

In 1772, Poland was occupied by Austria, Prussia, and Russia. In 1773, the Commission for National Education was established, recognized as the first Ministry of Education in the world. By 1795, after various uprisings, Poland lost its independence until 1918. During this period, however, the educational system evolved. The Austrians developed primary schools with three grades in the area they occupied and also founded one secondary school for training teachers. The Prussians had a similar policy in their area but opened more secondary and technical schools. More schools were created in the Russian zone. Vilna University already existed, and in 1816 the University of Warsaw was established. The University of Cracow, originally founded in 1364, was restored. The number of schools increased slowly until 1830, but following the November uprising of the Poles in that year, the occupying powers reduced the number. In 1862, in the Russian zone, several tertiary institutes were created, but with a Russian bias. By 1895, it was estimated that 69 percent of the population was illiterate, and of the existing 3,646 primary schools, 90 percent had only one class.

Following the First World War, Poland regained independence. At that time, 92 percent of schools were one-grade schools, 6 percent two-grade schools, and 2 percent three-grade schools. Some 47 percent of children attended school and one-third of the teachers had been through a teacher-training course. By 1923, there were 27,515 primary schools with an enrolment of 3.2 million children. By 1939, there were nearly 5 million children in school. They represented 90 percent of the equivalent age group, but regional attendance varied between 72 and 100 percent. Teacher-training institutions increased in number, and in 1923, there were 174 such institutions. There were 762 grammar schools (gymnasias) enrolling 227,000 pupils, but tuition fees were high and hence only 4 percent of pupils had a working-class background. Grammar-school education was primarily humanistic, with little science and technology taught. By 1938, there were 777 lower grammar schools, enrolling 181,000 pupils and 691 higher grammar schools, enrolling 40,000 pupils. In the same year, there were 48,000 students enrolled in tertiary education.

The Second World War witnessed the physical extermination of Polish intellectuals, professors, teachers, and people of culture on an unprecedented scale. As far as education was concerned, primary schools continued but were typically open only two hours per day. Secondary schools (gymnasias and *lycea*) were closed, and

although technical schools remained open they became craft oriented. Informal teaching was undertaken at primary, secondary, and tertiary levels, and though it did not reach all pupils it is considered to be one of the most commendable achievements in the history of occupied Poland.

Following the Second World War, with the help of the Soviet Union, the economy recovered under a series of three- or six-year plans. A massive literacy campaign was undertaken, involving 12 hours' tuition a week for 20 weeks. The campaign was successful. Formal education became unified—the same throughout the country in terms of aims, curriculum, and teaching—and was free, compulsory, and accessible to all. Education consisted of seven years of primary school and four years of secondary school. Accessibility took some time to achieve. In 1948, only 55 percent of rural children attended school. This rose to 83 percent in 1955 and was 90 percent by 1960. Full-time and part-time secondary technical education developed rapidly. In 1961, a curriculum reform was undertaken and in 1966 primary school was lengthened to eight grades. Higher education witnessed a dramatic expansion. Before the Second World War, there were 32 institutes of tertiary education, in 1946, 54, and in 1950, 83. The number was reduced to 73 after 1951, and this number remained. In 1965, there were just over 250,000 students enrolled in higher education.

In 1971, a committee of experts was set up to examine the state of education in Poland and to propose reforms. The committee reported in 1973 and recommended a thorough reform of the system: there should be a 10-grade compulsory common school, on which basis technical and higher education should be built. However, not only was the public's reception of this proposal cool but there were economic problems in implementing it. Thus, changes were not introduced.

1. Structure of the Educational System

Figure 1 presents the structure of the educational system in Poland. There is an eight-grade primary school, followed by secondary education. There are three types of secondary schools in Poland: four-grade grammar schools (*lycea*) which prepare for entry to higher education but not for employment; four-grade technical grammar schools (e.g., of economics, medicine, or art); and five-grade secondary technical schools. Leavers of all the above types of schools have the right to apply for admission to higher studies (including universities), but they must have taken final examinations for the certificate of maturity. In addition there are also three-grade vocational schools.

Education is by the state. Schools run by cooperatives and religious institutions are allowed, but are few in number. Similarly, though, Poland is inhabited by a homogeneous population and national minorities are few. However, those that exist (for example, White Russians, Lithuanians, Slovaks, Ukrainians, Greeks,

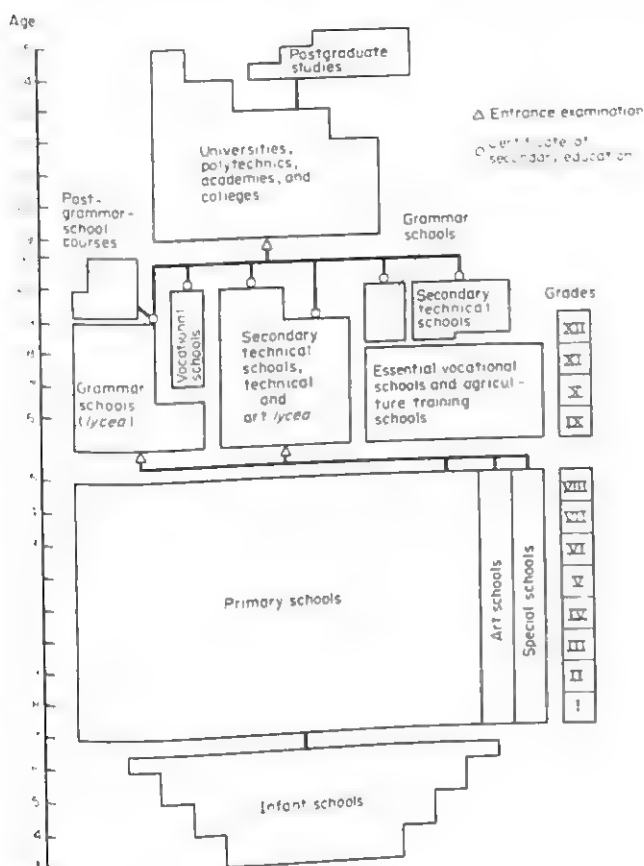


Figure 1
Structure of the educational system

Russians, and Jews) run primary and secondary schools with their native languages as the medium of instruction. They lie within the state-school structure. Independent schools for these minorities are declining in number. Table 1 presents the numbers of persons completing the various types of schools for selected years from 1946 until 1981.

2. Administration and Finance

The Ministry of Education supervises the structure, curriculum, and staff of infant schools, and grammar schools essential vocational schools, and postgrammar-school technical studies (lycea), as well as postgrammar-school leavers, called (in two-year colleges for grammar-school leavers, called *Policealne studia zawodowe*).

The Ministry of Science and Higher Education supervises the activities of schools of academic rank, co-ordinating their activities, controlling the uniformity of their activities, giving opinions on the award of professorial titles (decided by the State Council of the Polish People's Republic), and so on.

The Ministry of Science and Higher Education has no regional counterpart bodies. It cooperates directly with the administration of individual universities and other colleges. The Ministry of Education, on the other

hand, cooperates with school superintendents' offices in every region.

Education expenditure in 1980 in current prices amounted to 79,984 million zlotys from the national budget, and in 1984 to 333,005 million zlotys (i.e., 11.4 percent of total expenditure from the national budget). Expenditure on higher education in 1980 amounted to 18,890 million zlotys and to 66,640 million zlotys in 1984 (i.e., 2.3 percent of total expenditure from the national budget).

The annual average cost per student in full-time higher education studies amounted in 1981 to 76,600 zlotys. In 1966, the amount was 26,700 zlotys, and in 1979, it was 56,800 zlotys. Costs were, however, different for different types of study. In 1981, the distribution was: universities 70,100 zlotys; polytechnics 83,500; engineering colleges 81,200; agriculture academies 70,100; economic academies 48,500; pedagogical colleges 55,200; medical academies 100,200; marine colleges 113,900; physical training colleges 88,400; art colleges 97,000; and theological academies 45,700.

3. Curriculum

Curricula for infant schools, primary schools, secondary grammar schools, and technical schools, as well as for postgrammar-school studies are prepared by teams of specialists centred on the Institute of School Curricula. The programmes they produce are approved by the minister of education and are compulsory throughout the country.

Curricula for higher education courses are prepared by curriculum teams consisting of outstanding specialists—academics whose work is organized by the Ministry of Science and Higher Education. These curricula give general outlines, and universities and other colleges may introduce necessary modifications. Moreover, those universities and colleges which have the right to award assistant professorships may create their own curricula independently. Curricula in political sciences, economics, Marxist philosophy, and military and physical training for students are centrally prepared.

Textbooks for higher education are recommended by teams of specialists at the Ministry of Science and Higher Education. A variety of textbooks are used and are recommended to students by lecturers. Lecture materials, which are prepared at universities and colleges, must be approved by the rector of the given university or college.

Manuals for primary and secondary education are approved by the Ministry of Education and are uniform for the whole country.

4. Teacher Training

Teachers are educated at universities and pedagogical colleges. Teachers for technical schools are educated at polytechnics, economic and agricultural academies, or

Table 1
Numbers educated, 1946-84

Level	1946	1950	1955	1960	1965	1970	1975	1980	1984
Primary school: pupils	3,321,700	3,360,100	3,489,600	4,963,000	5,298,500	5,389,300	4,447,500	4,259,800	4,770,600
Grammar school: pupils	271,700	249,600	256,000	337,600	557,200	537,500	622,000	415,000	375,000
Grammar school: graduates	9,700 ^a	28,600	34,200	40,500	97,400	33,100 ^b	140,400	121,400	86,100
Technical school: pupils	286,700	634,700	503,000	784,200	1,671,000	1,710,700	2,058,100	1,851,000	1,516,800
Technical school: graduates	26,300	110,500	109,300	104,500	319,200	365,000	526,800	552,100	371,600
Secondary- and postgrammar-school courses: pupils	44,900	278,900	348,200	375,200	813,500	805,200	1,098,700	1,044,000	710,600
Secondary- and postgrammar-school courses: graduates	6,000	30,500	49,200	43,600	110,600	182,700	208,100	277,400	187,000
Universities and colleges: students	86,500	125,100	157,500	165,700	251,900	330,800	468,100	453,700	349,800
Universities and colleges: graduates	3,900	14,600	26,500	20,500	25,200	47,100	63,200	84,000	64,300

a Graduates from full-time schools only b Transitory year (without examination for secondary-education certificate) due to lengthening of the cycle of education

physical-training academies. Those teachers who have not taken a course in education as part of their studies may complete adequate courses (usually of two terms) in education departments at universities and other colleges.

Poland experiences difficulty in obtaining teachers with higher education degrees, particularly for rural schools, because teachers' wages are relatively low. An average salary in the state bureaucracy in 1981 was 7,311 zlotys, while an average teacher's salary for those with higher education degrees was 5,930 zlotys in primary schools, 6,454 zlotys in grammar schools, and 7,208 zlotys in secondary technical schools. There are also substantial difficulties in providing teachers, particularly in rural areas, with proper accommodation.

These factors, among others, mean that the number of teachers with a higher education qualification is diminishing and the number of teachers with only a grammar-school certificate of education is increasing.

5. Promotion and Examinations

At primary schools, pupils are promoted from one class to the next if they obtain at least a satisfactory pass. There are no final examinations at the primary-school level and certificates are granted on the basis of school achievement. Admission to grammar schools and other secondary schools is by entrance examination, although for several years admission was on the basis of the primary-school certificate. The educational authorities hope that a reintroduction of entrance examinations will increase the level of education.

Primary-school leavers are admitted to the three-grade vocational school without an entrance examination, but occasionally the results of additional ability tests are taken into consideration (for example, driving tests).

Secondary grammar and technical schools may be completed without taking final examinations for the secondary-school certificate of education, which is, however, a precondition in applying for admission to higher studies.

Entrance examinations to tertiary schools are explicitly selective but also take into consideration the average secondary-school results, as well as vocational work as unskilled workers which must have lasted at least two years.

In the course of the tertiary-education studies, students must pass a strictly defined number of examinations each year in order to be promoted to a higher course. They also receive a certain number of credits for courses in defined branches of science. If a student fails to meet these requirements, the same course can be repeated once, but the scholarship and place at the student dormitory must be forfeited. Students are not allowed to take the first-year course twice except in exceptional circumstances, such as prolonged illness.

Since 1965, candidates with a working-class or peasant

background have been given preferential treatment in admission to higher studies by a system of additional, preferential points. This procedure applies only to candidates who have successfully passed entrance examinations.

6. Major Problems

In the Polish People's Republic, illiteracy has been eradicated, a primary school of eight grades has become general, and over 97 percent of primary-school leavers have the chance to continue their education at least in the vocational schools of three grades (i.e., to have 11 years of tuition in all).

A programme for extending accessibility to secondary education, to the four-grade grammar and secondary technical schools or five-grade engineering schools (i.e., 12 or 13 years of tuition in all), is being worked out.

Since 1980, the number of students admitted to the first year of higher education has been decreasing. This is due both to the fall in the numbers of age groups eligible for higher studies and to the severe economic crisis, which reached its height in 1981.

The 1980s will continue to be very difficult for Polish education not only because of the economic recession but also as a result of the general economic reform, whereby enterprises have gained a large degree of independence and have become self-financing and self-governing. Since May 1982, these principles have also been applied to education, which has become self-governing and to a much greater extent self-financing.

In the early 1980s the national economy became, temporarily, less eager to employ new university and college graduates. Consequently, universities and colleges are seeking to reduce the number of students, close down some courses, bring curricula up to date, and adjust them more finely to the changing socioeconomic situation in Poland. These are the most serious problems facing higher education in Poland.

In spite of these difficulties, which have brought about a drastic cut in the number of part-time students in 1982, initial steps for organizing an open university have been taken. The preliminary name is the Polish Open University [*Wolny Uniwersytet Polski*]. Its general aim is to provide professional and academic courses to improve the quality of life and intellectual development of all those wishing to avail themselves of the opportunity.

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Portugal

M. O. Valente

Portugal's territory includes the mainland and the Azores and Madeira archipelagos. The mainland stretches along a rectangle of land on the southwest coast of the Iberian peninsula and occupies about 15 percent of its total area. Azores, with nine islands, and Madeira, with two islands and several islets, are both in the Atlantic Ocean, respectively at the latitudes of the southern mainland and North Africa. The whole territory is in the temperate zone of the northern hemisphere.

In 1981, a national census was conducted whose preliminary results indicated a population of almost 10 million. The population distribution is not regular. The density decreases from north to south and from the littoral to the interior, the average recorded in the 1981 census being 107 inhabitants per square kilometre. In 1974, the population showed a significant increase, due to an influx of about 700,000 people from former colonies.

Portugal emerged as an independent kingdom in the twelfth century. There is evidence of both a dolmen and a castro culture surviving through to the Roman era. The Romans ruled the area for nearly four centuries, and their influence can be seen in the language (Portuguese is derived from Latin), the legal system, and the establishment of latifundia in the south. The peninsula was later invaded by the Moslem empire. The Christian reconquest began in 718, but recognition of the Portuguese kingdom came only in 1197. The Portuguese people are the result of more than a thousand years of miscegenation and of cultural integration (Saraiva 1979).

Portugal continued as a monarchy until 1910, when the first republic was proclaimed. The following years saw political instability aggravated by the entry of Portugal into the First World War and the division of political parties. Economic and social problems of the country opened the way for a succession of military dictatorships, culminating in 1933 in the installation of an authoritarian regime which continued until the democratic revolution of April 1974.

With respect to education, the first republic marked an important period of advanced legislation in the area of infant and primary education, by great efforts to increase literacy through mobile schools and by teacher-

training implementation. Less attention was given to secondary education. The University of Coimbra was reorganized and the Universities of Lisbon and Porto were created by integrating higher normal schools.

In the period 1933 to 1974 political parties were not allowed, with the exception of the National Union, a government political organization, and the press was censored. Internally, the state was organized on a very centralized and bureaucratic pattern. The rural areas did not share in industrial development, and the inequalities between cities and villages, the littoral and the interior, increased. In 1970, the primary economic sector accounted for about 31 percent, industry 34 percent, and services 25 percent, but the 31 percent represented by the primary sector produced only 19 percent of the gross national product (GNP), while the 34 percent represented by industry contributed more than 46 percent (Saraiva 1979). In 1979, the sizes of the primary, secondary, and tertiary sectors were respectively 30.7, 34.4, and 34.9 percent. In 1978, some 27 percent of the population worked in agriculture, 37 percent in industry, and 36 percent in services, as against 61, 19, and 19 respectively in 1900. During the third quarter of this century, economic life was programmed according to development plans, which were compulsory for the public sector and constituted an orientation for the private sector. The economic structure has changed positively under the influence of these plans (Saraiva 1979). The differences in development between the regions and the European demand for labour raised emigration to enormous levels, almost causing depopulation in the poorest areas of the interior. In 1961, the guerrilla movements began in the colonies, and protest against war began to be the central theme in all the opposition movements in which university students played an important part. In 1968, Marcelo Caetano succeeded Salazar as the head of government and tried to introduce reforms, but the war situation became more serious and government was no longer able to unite the people around the ideal of a multiracial and multicultural nation.

In the education battle, Salazar's so-called New State did not take care of the masses, so that the illiteracy rate remained as high as 30 percent in the 1960s. Secondary education received the most attention, but even so

conditions deteriorated, since the number of teachers did not keep up with the school explosion of the 1960s. The school curriculum was decided centrally, as were the course syllabi, and one single textbook was prescribed for each subject at each grade level. In the lyceums and technical schools comprising secondary education, children, or their parents, decided which school they would attend at the age of 10–11 years, which resulted in a choice based on social class, instead of motivation and personal skills. During the first years of the regime, ideological indoctrination was a major objective. From the 1960s, there was a tendency to expect the system to contribute to economic growth and be a means of attaining equality of opportunity. It was in this context that reform was suggested in 1971 by the minister of education. Its bases were approved in 1973, but not completed due to the revolution of 25 April, 1974.

After the revolution, Portugal experienced a period of intense civic activity. The parliamentary regime was restored, the press recovered its freedom, and independence was granted to the former colonies. Ideology again became an important feature of school life. Literacy campaigns spread everywhere, a comprehensive system was introduced for grades 7, 8, and 9, and there was an attempt to abolish the division between manual and intellectual work as a means of building a socialist and democratic society as laid down in the 1976 Constitution.

After 1976, the creative explosion became controlled and limited and in a sense there was a regression in the educational adventure. At the university level *numerus clausus* was introduced, and subjects likely to possess an ideological content were suppressed. The emphasis was placed on providing personnel and the preparation of technicians, rather than on preparing children and youth toward the building of a new society.

1. Structure and Size of the Educational Effort

The Portuguese educational system (see Fig. 1) comprises preschool, school, and extramural education.

Preschool education is intended for children between 3 and 6–7 years old. It is organized in nursery schools, most of which are private. The Ministries of Health and Social Welfare encourage the development of this level of education. In 1977, a legal provision was made for a preliminary year of primary education in order to help improve learning in primary school. In 1978 the Ministry of Education opened 141 new preschool education classes. In 1981, there were 1,362 official classes on the mainland. In 1980, the number of children enrolled had grown to 26,190 in private schools and to 10,150 in official classes, covering about 19 percent of the population from the ages of 3 to 6.

Basic education lasts six years and is divided into two stages: a four-year primary school and a two-year Preparatory cycle. The first of these is conducted in Primary schools and the second in specific schools for

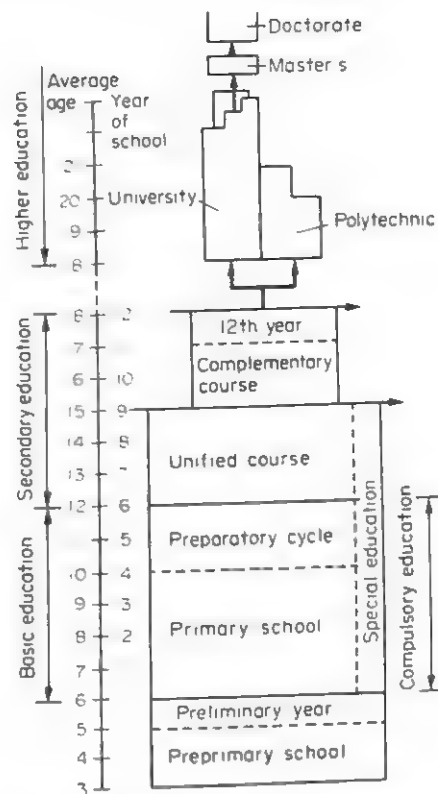


Figure 1
Structure of the educational system

this level, in both cases on an official and private basis. Basic education is the only compulsory education. The extension of compulsory schooling is still an objective recognized in the education bills which have been presented in parliament by all the major parties and await an opportunity for discussion and approval. In these bills it is proposed that compulsory schooling continue until the end of grade 9. Due to difficulties in extending the preparatory cycle to all remote rural areas, an indirect system of schooling has been undertaken through television. Children receive the transmissions in centres where there is a monitor (teacher) with a lower level of training than a regular teacher. The Institute of Educational Technology is responsible for producing lessons and evaluating students. In 1981, there were 1,126 official and 22 private centres. Pupils unable to complete their basic education by the age of 14 years may attend supplementary courses during the day if under 18 years of age or at night after that age. In spite of efforts to expand compulsory education, only about 70 percent of the population in this age group receives it.

Secondary education includes a unified course of three years and a complementary course of two years. There is also another year of studies before entrance to higher education. The unified course covers grades 7, 8, and 9. Its curricular plan integrates vocational education at grade 9, in areas such as food production,

agriculture and stock breeding, construction, textiles, art and design, music, and sports. Attendance at any of these options does not bind students as to future choices. The complementary course covers grades 11 and 12 and is organized in study areas integrating general studies, and vocational studies. Grade 12 has two streams, one giving access to higher education and the other leading direct to the labour market. Originally, this 12th year was devoted to community projects; later a propaedeutic university year was introduced, first through television and then in special schools; it is now conducted in secondary schools, but with special rules, including a much more restricted number of subjects than in grades 11 and 12.

Artistic education is a part of the basic and unified grades and an option in the complementary course. More specific training is given in the conservatories of dance, music, theatre, and cinema. Private academies and schools provide substantial supplementary support. Physical education has not reached the position due to it in the educational system, either in curricular or extracurricular activities. One of the main reasons is the lack of appropriate play areas and teachers. There are only two higher schools for the training of physical education teachers; the first one was created in 1940, but in its first 40 years of existence it trained only 1,400 teachers.

Adult education and literacy classes are conceived in a national plan whose objectives are the systematic elimination of illiteracy and the progressive access of all adults to all levels of basic education.

Children and young people with special needs are integrated in regular schools assisted by special educational services. Those unable to be integrated are sent to special centres, which are very few in number. Private enterprise has been helping to overcome the enormous deficiencies. In 1979, there were more than 40 centres. The Special Education Division of the Ministry of Education provides a great part of the staff salaries in these private centres.

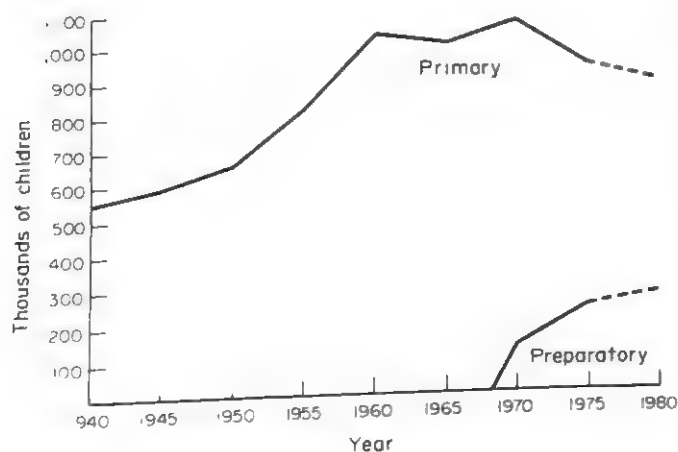


Figure 2
Primary- and preparatory-school enrolment 1940–80

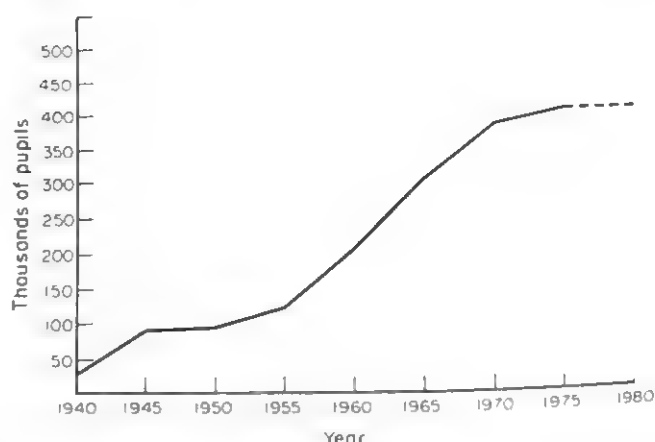


Figure 3
Secondary-school enrolment 1940–80

Higher Education includes university education and polytechnic education, the first in universities and institutes and the second in higher schools of education and higher polytechnic schools. Universities and institutes award the degrees of Bachelor, *Licenciado*, Master, Doctor, and a higher degree called *Agregado*. Higher schools award the Diploma of Specialized Higher Studies.

Growth in enrolment has been recorded at all grade levels. Enrolment in primary schools from 1940 to 1980 is shown in Fig. 2. It should be noted that in 1965 the period of compulsory education increased from 4 to 6 years. For this reason Fig. 2 also shows enrolment in the preparatory cycle since then. In 1981, the number of children in primary schools was 886,681, and the number in preparatory cycle schools was 317,480.

Figure 3 shows enrolment in secondary schools from 1940 to 1980. In 1981, enrolment in secondary schools was 392,263. The number of pupils in the 12th year was 39,067. The school enrolment rate in the 15–19 age group is one of the lowest in Europe—about 35 percent.

In 1981, in official higher education institutions, there were 72,821 students, while in 1971 the number was 39,662.

2. Administration

The Portuguese educational system is still highly centralized despite the prescription of a decentralized public administration in the 1976 Constitution; this has been achieved only in the Azores and Madeira. The Ministry of Education is the body politically and administratively responsible for formal education, including private schools. Other Ministries, such as Health, Labour, Social Welfare, Culture, and Public Works, have services contributing to the educational system, but in most cases, without a clear definition of functions.

The Ministry of Education has several general directorates: the Institute of Educational Technology, Institute of Social School Action, and the Department for

the Support of Juvenile Organizations. In 1979, the general inspectorate was empowered to exercise pedagogic, administrative, financial, and disciplinary control in all primary and secondary schools. A number of difficulties, in the administrative process, affect the smooth operation of the system. Every year delays are observed in the opening of the academic year and teacher allocation, and there is a severe lack of school buildings.

In higher education, there are projects for university autonomy, but they have not yet been approved.

3. Finance

Until the 1974 revolution, the budget for education never exceeded 1.6 percent of GNP. By 1979, it had risen to 3.7 percent. As a percentage of the total state budget, the educational budget reached 11.5 in 1979, but 90 percent of it was employed on current expenditure, including 75 percent on personnel.

Private resources for education come mainly from the Calouste Gulbenkian Foundation, which provides grants and equipment, finances special programs, and runs a centre for educational research, a computer centre, and an institute of science.

4. Supply of Personnel

The teachers for preprimary and primary schools are trained in special schools with a three-year programme including teaching practice.

Secondary-school teachers and preparatory-cycle teachers are trained at universities in accordance with the subject matter(s) they will teach and educational methods. In all cases, academic studies are followed by one year of teaching practice supervised by university and school teachers. At the end of a *licenciatura* of 5 years, students leave with a professional diploma. The last year is paid by the school on a full-service basis, although there has been a reduction in class teaching hours.

In 1979, so as to solve the problem of having many teachers in the system without professional certification, a new model of inservice teacher training was implemented, lasting two years and conducted within the school where a teacher is under contract. Under this system, the school pedagogic council has a special responsibility for the development and supervision of individual plans for realizing personal and professional objectives, one of the interesting tasks of inservice teachers. There are other structures at regional and national level representing an ambitious experiment that has not yet been evaluated.

There is also a plan for training all basic-education school teachers in higher schools of education. Portugal at present is involved in training the faculty for these schools which will offer a large-scale programme of master's courses in education.

The training of special education teachers is given by way of postgraduate courses in a special institution.

There have been radio and television programmes for teachers to keep themselves up-to-date and seminars and workshops are run by scientific societies, trade unions, and other bodies.

Administrative personnel have been drawn from the ranks of teachers who received their training on the job. The same applies to supervisors. It is possible that the new higher schools of education and the very new faculties of psychology and of sciences of education will in future develop special training courses for this type of personnel.

5. Curriculum Development and Teaching Methodology

Curricular plans are established at the ministry, and course syllabi are defined by teacher groups which always exist for only short periods and have insufficient means for launching new programmes and evaluating them. Many curriculum experiments, never evaluated, are replaced by others with the same limitations and which end in the same way.

Teaching methods are manifold, some in the vanguard and others completely obsolete, all depending on personal knowledge and motivation but without effective supervision. For many teachers, lack of equipment is the regular excuse for not trying to teach better.

6. Educational Research

Research in education has not received much attention or support. Portugal has no tradition of educational studies. Most teachers who have undertaken postgraduate studies in education obtained their degrees in foreign countries, even though there has been some research in Portuguese universities, in the faculties of educational studies and planning unit and in the Gulbenkian Centre of Educational Research. The National Institute for Scientific Research has a section for the humanities, including education, but little recognition is given to educational studies. There are, however, plans for organizing an institute for research and innovation in education.

7. Major Problems

In spite of many efforts, illiteracy is still a national problem, the present level being about 23 percent. A great effort will be required to implement preprimary education throughout the country. In primary education, a change of methods is urgently required, since the current dropout levels are unacceptable. The extension of compulsory education to 9 years is a tremendous challenge for the near future. The secondary-education curriculum has to be revised and be made more relevant in preparing young people for their

working lives. More work is necessary in the schools, and fewer words. Access to university has to be redefined. The 8 percent enrolment must be raised. The universities must identify their aims within the context of present and future Portuguese society and solve the problem of their autonomy. Research must be reinvigorated and receive a much higher budget. Educational research desperately needs a structure. The number of school buildings must be increased at a much quicker rate, and equipment is necessary for new types of individualized and group work in schools.

Finally, theory and practice must be related. The country has educational ideologists, but for progress to be achieved it is necessary to decentralize the system and involve people and resources of all kinds in viable projects, which must be pursued with suitable means.

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Qatar

A. A. A. Torki

Qatar is a peninsula situated halfway along the western coast of the Arabian Gulf. Its area is about 11,427 square kilometers (7,140 square miles). The landscape is generally flat and low lying except for some modest hills and higher ground to the northwest. In the north there are areas of vegetation, in contrast to the south, which is arid with stretches of salt flats. This situation has made Qatar of strategic importance, for it is an excellent center of transport, by air and sea, between the northern and southern countries of the Gulf.

The census carried out in 1972 gave the figure of 180,000 for the population of Qatar. Some 80 percent of these live in Doha, the capital, and the rest are scattered in oil areas, in small villages, and in the desert.

The majority of these inhabitants have come to Qatar after three main immigration movements. In the 1770s families from tribes living in Kuwait and the eastern coast of the Arabian Peninsula came by land to reside in Qatar. About the end of the nineteenth century, during the expansion movement of the Wahabis, groups of families originally living along the eastern coast of the Arabian Peninsula emigrated by land to Qatar. The third immigration movement, over the first half of the twentieth century, was when inhabitants of neighboring coasts of the Arab Gulf came by sea mostly from the western coasts of Persia.

All Qataris are Moslems. The majority are followers of the Sunna sect and the minority (of Persian origin)

are Shiites. Qatari society is conservative. Its customs and traditions have their origins in Islamic values and in the traditions of the nomadic tribes.

The State of Qatar became fully independent on September 3, 1971. It has since then been a full member of the Arab League and the United Nations Organization.

1. Aims of Education

According to the constitution, education is to aim at building a nation whose members are physically strong, mentally sound, believers in God, well-behaved, proud of Islamic traditions, aware of their duties and rights, equipped with knowledge, and well-balanced in personality. Thus, Qatar realizes that education is no longer a luxury for the elite but a right for all, necessitated by the facts of modern life and the demand for economic and social development. The provision of education is also an obligation towards Islam and humanity as a whole.

Consequently, education has the following specific aims:

- to meet the aspirations of Qatari society to lead a modern and free life;
- to produce individuals who are well aware of their role in human society and directed in their indi-

vidual and social behavior by Islamic and national ideals and traditions;

- (c) to achieve social adherence through unification of thought, aims, and goals;
- (d) to preserve the Arab Islamic nature of Qatari society with its traditions and culture;
- (e) to stress the fact that human beings are the main elements in the economic and social progress of the country and that the economic independence of Qatar is achieved only through the development of the Qatari individual;
- (f) to encourage the acquisition of scientific and technological knowledge in conformity with the Arab Islamic nature of Qatari society;
- (g) to create cooperative links between Qatar and friendly countries and international organizations in the educational and cultural fields; and
- (h) to cooperate in all efforts destined to preserve and improve human culture at an international level.

2. Structure and Size of the Education Effort

Before 1956, there was no official education in Qatar. In that year, the first government school was established, followed by a rapid increase in the number of schools and pupils. Initially, Qatar depended on other Arab countries for curriculum development, teachers, and books. Gradually, the system developed and Qatar produced its own books within the framework of Arab cultural agreements. In the 1970s, there was rapid development, both quantitatively and qualitatively.

The most important feature was the establishment of the University of Qatar. It began in 1975 with two faculties of education, one for males and the other for females. It now comprises five different faculties.

The present educational system has six years of primary school, three years of preparatory (lower-secondary) school, and three years of secondary (upper-secondary) school. The primary stage is for all pupils, while the preparatory stage has two types of school: general and religious. The secondary stage comprises four types, namely general, religious, technical, and commercial. There are also two specialized institutes: one for nursing, affiliated to the Ministry of Public Health, and one for music, affiliated to the Ministry of Information.

There is a special institute for language teaching, established mainly for government officials. In this institute, English and French are taught to Arabs while Arabic is taught to non-Arabic speakers. The institute runs a four-year course. The Institute of Administration is also run by the Ministry of Education, and accepts Qatari government administrative staff who have completed their secondary education. It runs a two-year course. Two institutes for the handicapped were estab-

lished in 1982 (one for males and the other for females) and these are also affiliated to the Ministry of Education.

There is no compulsory education in Qatar, yet the state spares no effort in providing the facilities needed to make education available to all.

Education is free for all residents regardless of race, origin, etc. Ages of enrollment are 6 to 16 years in primary, 11 to 19 years in preparatory, and 14 and above in secondary education.

In the school year 1985-86, there were 52,788 students, an increase of 7.2 percent over the previous year. Of these, 25,775 were girls, representing 48.8 percent of the total. The totals were distributed as follows: primary 22,170, of whom 69.2 percent were girls; preparatory 12,316, of whom 49.4 percent were girls; secondary 7,599, of whom 51.4 percent were girls; and specialized schools 703 (all males).

There are some nongovernmental private schools for Arabs or foreigners. These schools are supervised by the ministry. In 1984 they numbered 63 and had 11,801 students.

There is a system of adult education, including literacy programs. The number attending evening literacy classes or classes to improve standards of education reached 6,759 in 1985-86. Of those, 3,956 were men and 2,803 were women. They learn in 65 centers, covering all towns and large villages.

3. Teaching and Administrative Personnel

The total number of personnel in education was 5,005 in 1985-86 with an increase of 322, or 6.8 percent, compared to 1984-85. Of these, 3,825 were teachers and the rest were clerks and administrative staff. Qatari personnel numbered 2,047, constituting 40.8 percent of the total. Some 1,606 of these were females.

From 1956 to 1965, Qatar depended on expatriate teachers, particularly from Egypt, Jordan, Syria, Lebanon, and the Sudan. In 1965-66, the first batch of teachers graduated from the Qatar teacher-training institute. These graduates were all male. In 1970-71, the first female graduates emerged. However, all these teachers were for primary schools, and preparatory and secondary teachers were still expatriates employed either through direct recruitment or within the framework of bilateral agreements.

In the early 1980s, the shortage in the number of teachers needed for preparatory and secondary schools, after employing graduates of the University of Qatar (Faculty of Education), is met through recruitment or secondment from other Arab countries. Primary-school teachers produced by the teacher-training institutes proved to be below the desired standard and, therefore, the ministry gradually phased out these institutes. Since 1975, these teachers have been trained at the faculty of education. The procedure is to recruit a number of girls on their completion of secondary education and enroll them in the faculty of education for general or specialized educational upgrading diplomas. At the completion

of this course, they immediately become teachers. The first batch took up their posts in 1978. Evening courses are then conducted for such graduates to qualify them for a Bachelor of Arts in primary-school teaching. By the academic year 1979-80, this approach has been adopted as a basis for the selection and recruitment of primary-school female teachers. No female teachers are recruited unless they hold the diploma of educational upgrading. Qatari University graduates are involved only in educational administration and school management.

The Ministry of Education and the University of Qatar decided to take the following steps to overcome the national shortage of schoolteachers: first, in in-service teacher training, a general educational upgrading diploma for teachers in the first four grades of the primary stage was introduced. This was an evening course of two years' (72 credit hours) duration. Holders of this diploma may continue their studies to obtain a B.A. in primary education (144 credit hours) provided that they continue for two successive years as primary-school teachers.

Second, a specialized educational upgrading diploma was introduced for teachers of grades 5 and 6 of primary school; this is an evening course of two years (72 credit hours). The course concentrates on two major areas: religious studies and Arabic, or mathematics and science. Holders of this diploma may continue their studies to obtain a B.A. in primary education provided that they stay for two successive years as primary-school teachers.

Third, a general diploma in education was introduced for preparatory- and secondary-school teachers who are university graduates but not qualified as teachers. This is granted after a one-year course (or 36 credit hours).

Finally, a special diploma in education was introduced for holders of the general diploma after a one-year course (or 36 credit hours). Holders of this degree may apply for an M.A. in their major subject(s).

4. Finance

In 1985-86 the budget of the Ministry was 1,012,358,900 Qatari riyals (1 US\$ = 3.65 Qatari riyals) distributed as follows: salaries 542,322,200 riyals (53.5 percent); recurrent expenditure 224,311,700 riyals (22.1 percent); extensions and repairs 17,500,000 riyals (1.7 percent); and construction 228,225,000 riyals (22.5 percent). Table 1 shows the increase in the budget from 1973 to 1985.

5. Curriculum Development

A comprehensive development in curriculum and textbooks has been accomplished in the following areas either partially or completely:

- Evaluation of the modern mathematics curriculum and a feasibility study of its introduction into primary schools.
- Completion of an English-language-teaching project at the primary and secondary stages. The new textbooks for the secondary stage are under production with the assistance of Oxford University Press.
- Establishment of the aims and methods for the integrated social subjects for all three stages of education.
- Revision of some textbooks used in the teaching of Arabic religious subjects, modern mathematics, and integrated sciences, and the compilation of new textbooks for reading for adult females, arithmetic, and religious subjects for the three cycles of literacy education.

In primary schools, grades 1 and 2 receive 30 hours of instruction per week, grade 3, 31 hours, grade 4, 33 hours, and grades 5 and 6, 36 hours. The following

Table 1
Education budgets 1973-85 (in Qatari riyals)

Year	Salaries and recurrent expenditure	Construction	Total	Cost/Pupil
1973	80,078,024	14,690,000	94,768,024	2,720
1974	87,738,546	21,190,000	108,928,546	3,917
1975	145,488,212	50,000,000	195,488,212	6,529
1976	211,806,230	60,000,000	271,806,230	8,392
1977	283,543,400	106,400,000	389,943,400	12,040
1978	338,849,400	150,221,100	489,070,500	14,430
1979	384,505,000	162,283,400	546,788,400	15,333
1980	525,696,516	274,371,000	800,067,516	21,249
1981	642,307,000	166,250,000	808,557,000	20,242
1982	1,209,231,877	431,765,000	1,640,996,877	38,512
1983	863,890,974	220,708,000	1,084,598,974	23,881
1984	812,798,373	192,199,000	1,004,997,373	21,254
1985	566,633,900	245,725,000	1,012,358,900	20,511

subjects are taught: religious studies, Arabic language, English language (grades 5 and 6 only), mathematics, integrated science, social studies (grades 3–6), fine arts, and physical education.

In preparatory schools, students receive 36 hours' instruction per week in the following subjects: Arabic language, religious studies, English language, modern mathematics, integrated science, social studies, fine arts, and physical education.

At the secondary stage, 36 hours are taught per week with 6 extra hours for a student's specialization subject in the specialized schools.

In the first grade of the general-secondary stage, the subjects taught are: religious studies, Arabic, English, modern mathematics, science (physics, chemistry, biology), fine arts, and physical education. Specialization starts in grade 11, as the second secondary stage is divided into two sections: science and arts.

6. Administration and Supervision

Decisions about educational policy, its strategic framework, and long-term plans are adopted by the cabinet after consultation with an advisory council. The execution of educational policy is the responsibility of the Ministry of Education after consulting all relevant departments. There is a group of advisory committees which participate in preparing and executing the decisions. These are: curriculum committees (for science, mathematics, English, and social studies) and committees for educational evaluation, educational research and studies, personnel, tenders, and scholarships.

Before a final decision is taken, the opinions of educational administrative experts, students, teachers, inspectors, and school administrative staff are explored through questionnaires, opinionnaires, or general discussions. In this way there is a counterbalance between centralization and decentralization.

In 1974, the Ministry of Education decided to conduct comprehensive research on productive efficiency in the school using the procedure of following up a particular cohort of pupils. The ministry first conducted a number of courses and seminars for school principals and their deputies, based on lectures and dialogues, concerning concepts, modes, and factors related to promoting educational efficiency. After this, a comprehensive research study, "Educational efficiency in Qatari schools," was launched. It is expected that the results of this study will help improve efficiency in the schools.

7. Examinations

In order that the traditional examination may become a true means of measuring a pupil's development in all areas, the ministry, with the help of technical specialists, teachers, and school administrators, has prepared a new system of examination based on the continuous evaluation of pupils' work throughout the school year.

Due to the special nature of evaluation in the early primary stage and the psychological characteristics of children in their first three years of schooling, the ministry has issued a manual for evaluation of various subjects taught in these three grades. The manual was under experimentation in 12 schools (6 for boys and 6 for girls) in 1980 and was adopted for all schools in 1982.

8. Educational Research

The Ministry of Education, through its department of technical research, has established a special committee for studies and surveys. Research projects include case studies and surveys covering all inputs and outputs of the educational process, that is, students, teachers, textbooks, curricula, school buildings, extracurricular activities, and teaching aids.

Another general committee comprising educationists and specialists in the ministry and the University of Qatar was formed to make practical suggestions emanating from research projects. In 1980, an educational research center was established at the University of Qatar.

9. Major Problems

The following can be said to be the major problems that the Ministry of Education will try to overcome in the 1980s and 1990s:

- (a) The fact that school-building construction comes under the Ministry of Public Works, not the Ministry of Education, makes for difficulties in providing the necessary class capacity if the buildings are not ready for use at the fixed dates.
- (b) The absence of a comprehensive development plan at the state level limits the effectiveness of educational planning.
- (c) Centralization of the state financial system does not allow the ministry to act freely within its budget since it has to have permission from the Ministry of Finance for every financial dealing.
- (d) More confidence is needed in the results of educational research studies and their practical application. New educational experiments that have proved successful in developed countries must be tried in Qatar.
- (e) Government kindergartens should be introduced because of their importance as a transitional stage between home and school.
- (f) Educational techniques, including the use of television, must be developed. Preliminary steps for the use of television have already been started in cooperation with the Ministry of Information.
- (g) New forms of education must be introduced to meet the needs of Qatari development.

- (h) An efficient system of collecting and disseminating educational data must be instituted to enable authorities to make decisions on the basis of studies and their findings.
- (i) Continual modernization of the content of education, its methods, aids, and system of evaluation (i.e., systematic, continuous curriculum development), is needed.
- (j) Teacher pre- and in-service training must be improved.
- (k) More stress must be placed on technical education to keep pace with modern developments and to meet the real needs of society.
- (l) Educational administration should be further decentralized.

Romania

G. Văideanu

Romania, in the southeast of Europe, is bordered by the Black Sea, the Soviet Union, Hungary, Yugoslavia, and Bulgaria. The contour map, dominated by the Carpathians, is equably distributed: 33 percent plain, 36 percent hills and plateaux, and 31 percent mountains. The variety of its landscape is notable: for example, the Danube delta, with its unique flora and its interesting fish and birds, the hills and plateaux of Transylvania and Moldavia, and the heights of the Carpathians, in places higher than 2,500 metres. Many passes and valleys cut through these mountains, which have never constituted an obstacle to communication between the three provinces of Moldavia, Transylvania, and Wallachia, though history has long kept them apart; the Carpathians have been a shelter and a central focus for the Romanian people.

Romania has a surface area of 237,500 square kilometres and a population of 22,300,000 in 1980. In 1930, the population was only 14,280,729. At the beginning of the 1980s, 52 percent lived in towns as opposed to 23 percent in 1948. The population is 88 percent Romanians, 8 percent Hungarians, 1.6 percent Germans, 1 percent Gypsies, and some Serbs, Turks, Ukrainians, and others. The structure and vocabulary of the Romanian language originate from Latin, and it belongs to the Indo-European family.

The land of the Romanian people has been inhabited since earliest times. The Dacians and Geti lived there well before the Christian era, organizing their territories and entering into relations with the Greek cities on the Black Sea coast and with other neighbouring peoples. The first written mention of the Dacians and Geti occurs in the work of Herodotus (sixth century BC), who calls them "the bravest and the most righteous among the Thracians", adding that the Thracian population was "the second most numerous after the Indians".

The principal stages of the Romanian people's long history are: (a) the rise of Dacia under King Burebista, a contemporary of Julius Caesar, and then under King Decebalus (AD 87–106); (b) the two expeditions organized by the Emperor Trajan against the army of Decebalus in AD 101–2 and AD 105–6, which finally enabled him to subdue Dacia; this victory is commemorated by

Trajan's Column in Rome; (c) the massive, organized colonization of Dacia, the assimilation by the Dacian population of Roman civilization and the Latin language (AD 106–271), and the appearance of a Dacian–Roman population. These people remained behind after the Roman administration and army withdrew in AD 271, preserving their relations with the Roman Empire and opposing wandering tribes; (d) the constitution of small Romanian states in Transylvania in the tenth century and of more extensive states in Moldavia and Wallachia in the thirteenth and fourteenth centuries; (e) the union of Moldavia and Wallachia in 1859; (f) the obtaining of Romanian independence from the Ottoman Empire in 1877; national unity achieved according to the wishes and ideals of the Romanian people; (g) the union, after the First World War, of all the provinces—Bessarabia in March, 1918, Bukovina in November, 1918, and Transylvania in December, 1918; (h) in August, 1944, after the national uprising, the Romanian army turned against the German army and played an active part, in conjunction with the Soviet army, in freeing north Transylvania, Hungary, and Czechoslovakia; (i) on December 30, 1947, the monarchy was abolished and a republic proclaimed; (j) the most recent constitution was proclaimed on August 21, 1965. Romania is a developing socialist country; the president of the republic is elected for four years by the Grand National Assembly.

In 1979, the gross national product was US\$3,426 million, an average of US\$1,580 per inhabitant. In 1938, industry occupied 12 percent of the active population and contributed 30.8 percent of the national revenue; in 1979 these figures had changed to 35 percent and 60 percent respectively. Between 1948 and 1979, industrial production increased 53 times. Chemical and petroleum industries, the building of machines, and the textile and foodstuff industries are the most important. The educational system has made appreciable progress in training the qualified personnel required by a swiftly growing industry. In 1938, agriculture occupied 75 percent of the population and contributed 38 percent of the national revenue; in 1979, it occupied about 30 percent of the population and contributed 15 percent of

the national revenue. It still remains a sizable part of the economy and its modernization is a priority aim. Stock breeding is particularly important. Transport has developed in connection with the expansion of industry, agriculture, and commerce. External trade is continually developing; between 1950 and 1979, it increased 25 times. Romania trades with 140 countries. In 1979, the number of tourists reached 6 million.

1. Aims of the Educational System

Romanian education has developed over the centuries in close connection with cultural and spiritual movements in Europe. The first university was founded at Jassy in 1860 and the second in Bucharest in 1864. In socialist Romania, education is seen as a factor of culture and civilization. The 1978 law stated that the fundamental aims of education were

to train the personnel required for all aspects of social, economic, and cultural activity; to ensure a high level of scientific, technical, and cultural training, and/or a very broad-based education for pupils and students; to inculcate in pupils and students the politics and ideology of the Romanian Communist Party, scientific socialism, and materialist dialectic and historical concepts; to foster the values of love for work, for public property, and social obligation; to educate the young in the love of their country, and in the spirit of unity and fraternal friendship among young people and all workers in the country; to promote ethical behaviour, the spirit of equity and justice, love of truth, honesty, modesty, and straight dealing, the spirit of responsibility and respect for the laws of the land; to promote respect for other peoples, and solidarity with the youth of the whole world; to develop both physical condition and intellectual qualities.

The overriding principle of the educational process is one of unity between teaching, research, and production. Particular attention is paid to the traditions and characteristics that reflect the origins of the Romanian people as members of the European cultural community.

2. Structure and Size of the Educational System

At the end of the Second World War, out of a population of 15 million, four million Romanians were illiterate. In 1980, the number of children, adolescents, and young people receiving education was approximately 5,585,000. As Fig. 1 indicates, preuniversity education includes, after preschool (from 2- or 3- to 6-year-olds), three stages of four years: primary education from 6 to 10, gymnasium (upper primary) from 10 to 14, and lyceum (secondary) from 14 to 18. Compulsory education lasts 10 years. The first (lower-secondary) part of the lyceum course is attended by all pupils. Evening courses are involved in the second (upper) part of the lyceum course, which lasts for two years. In higher

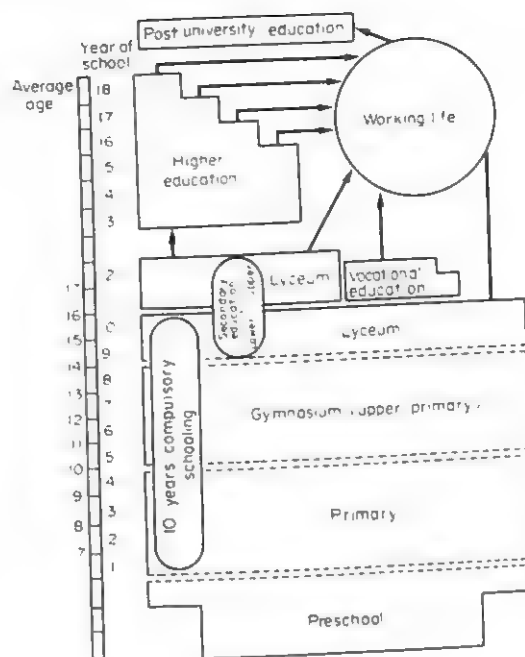


Figure 1
Structure of the educational system

education, studies can last anything from three years (engineering) to six years (architecture or medicine). Admission is by competitive examination, and presupposes that the candidate has passed the baccalaureate. In the academic year 1938-39, there were 90,787 students in primary education and 49,287 in the secondary cycles. The figures for 1980 are given in Table 1 which is based on the 1981 Ministry of Education statistics.

The rise of nonformal education characterizes Romanian postwar education. It is to be noted that, thanks to the collective running of educational institutions, and most especially to the close collaboration between the teaching staff and youth organizations (the Pioneers and the Communist Youth Union), the formal activities dictated by the school timetable and nonformal activities are dovetailed to and complement each other. The nonformal activities are weekly, fortnightly, or monthly meetings, excursions, artistic and sporting competitions, the pupils' "Academic Olympics", in which students compete on their knowledge of certain sciences in international competitions, and so on (Văideanu 1982). The different levels and forms of instruction are open to all citizens, without distinction of nationality, race, sex or religion, without in fact any kind of discrimination.

3. Administration

The Educational and Teaching Congress meets every five years; between congresses, coordination is ensured

Table 1
Numbers of pupils and teachers by level 1980

Level	Number of pupils	Number of teachers
Preprimary	935,711	38,512
Primary (lower and upper)	3,308,462	57,437 (lower primary) 99,380 (upper primary, teachers and teacher assistants)
Secondary (<i>lycée</i>)	979,741	46,500 (teachers and teacher assistants)
Professional and technical	168,138	2,211
Higher education	192,769	14,592 (professors)

by the Higher Council of Education and Teaching. This body surveys and controls the activity of the Ministry of Education and Teaching (MEE), of the other ministries, and of the local councils, in matters of educational policy. At all levels, the basic principle is that of collective direction. The Ministry of Education is responsible for the curriculum and teaching methods; school mapping for the whole country and enrolment rates for schools at all levels; approval of scientific and educational research programmes; organization of pre- and in-service teacher training; and the granting of scholarships. Each university has a senate which oversees the activities of the executive: that is, of the rectors, the vice rectors, the secretary of the Romanian Communist Party organization, the president of the Association of Communist Students, the representative of the syndicate. The same principle is applied throughout the school system. In each administrative district there are school inspectors who are subject to the ministry and form part of the people's council for that district.

4. Finance

The 1980 budget for education is 14 times that for 1950. The part allocated to school building is 33 times higher than in 1950. In millions of lei, the state budget was 17,393 in 1979, 18,020 in 1980, and 19,491 in 1981. At the beginning of the 1980s, special financial emphasis was given to laboratories and workshops. Textbooks are free for all pupils. Over 500,000 pupils and students receive scholarships each year.

5. Teachers and Teacher Training

In 1981, there were 265,555 teachers. Teacher training takes place in institutes specifically for teacher training or in general institutes having some courses in education. Preschool and lower primary school teachers

are trained in teacher-training colleges (*écoles normales*). Upper-primary and secondary-school teachers are trained in a four-year course at the universities. Technical teachers are trained at polytechnic or agricultural institutes. Preservice training is run within the framework of lifelong education. Inservice training is a well-structured subsystem which includes compulsory courses every five years, an examination after three years of teaching in order to obtain a full qualification, and the possibility of becoming a Category 2 and later a Category 1 teacher upon proving a good mastery of teaching and the ability to be innovative in teaching. Much attention is focused on the training of the teacher trainers and on the link between educational research and teacher training.

Teachers in higher education include teaching assistants, and the various ranks of teacher up to that of professor. Teaching assistants are selected from the best students at the university. All other positions are obtained on a competitive basis according to graduate degrees and publications.

6. Curriculum and Teaching Methodology

Specialist committees, composed of subject matter specialists, researchers, university personnel, and teachers, prepare the syllabi for all subjects based on the time allocated to those subjects. These specialist subcommittees (e.g., for mathematics, biology, or foreign languages) are coordinated by a central committee. The syllabi, approved by the ministry, act as a basic guide for teachers and the authors of school books. This curriculum (syllabi and textbooks) is the same for the same types of school throughout the country; this unity of content eases the problem of examinations and evaluation both within the same district and throughout the whole country. An important place is reserved, especially in the lyceums, for natural sciences, technology, and practical courses (e.g., in industrial or

agricultural enterprises, libraries or museums, shops, hospitals). The Institute for Educational Research is increasingly being requested to develop and implement curricula. The content of teacher-training programmes is worked out on the basis of the school curriculum.

Within higher education, each faculty and department develops its own curriculum. An effort is being made to devise more interdisciplinary curricula. At every level of education, every possible educational and epistemological effort is being made when devising curriculum content.

7. Evaluation, Examinations and Promotions

The different methods of evaluation (oral, written, and practical, continuous and periodic) require that the pupils should not merely recapitulate and reproduce the information they have acquired but also make syntheses, selections, and new combinations. A special effort is being made to use more initial and formative evaluation. In practice, systematic evaluation is carried out by each teacher in the classroom. Periodic evaluation occurs at the discretion of the local inspector (in order to evaluate and compare the performances of the pupils in one particular subject matter). Competitive entrance examinations are used for the upper secondary school course and for higher education; this involves written examinations and tests in subjects designated by the Ministry of Education. Consequently, the learning which precedes the entrance examinations is strictly a function of the curriculum. A reexamination of the evaluation methods used at the preuniversity and university levels is under way in order to devise improved evaluation, one more suited to the educational objectives and to the expectations of the young.

8. Educational Research

The major institute is the Institute of Educational Research in Bucharest; research is also conducted in the departments of education and psychology in the universities, and in other teacher-training establishments; in the universities of Bucharest, Jassy, and Cluj-Napoca, the professors are assisted by a number of specialized researchers. Other units of educational research include the Centre for Youth Problems and the research unit of the Council for Culture and Socialist Education. In the Academy of Social and Political Sciences, there is a department of education and psychology which coordinates all educational research.

The Ministry of Education is the principal beneficiary of these research studies. Attention is paid to the transfer of research results into practice, and, in this context, to the organization of experimental schools; at the same time attempts are made to strengthen the connections between systematic research and spontaneous research (educational innovation) as practised by teachers in

their own schools. Publications on the subject aim, on one hand, at making the public and the school authorities aware of new ideas (e.g., permanent education, the systematic approach to the process of education, assisted teaching) and, on the other hand, at keeping educators informed and stimulating their interest in the values appropriate to their profession. At the centre of the research effort lies the problem of quality of education, pupil achievement, and, more particularly, ways of improving curriculum organization, active methods, formative evaluation, and the fit of the teaching-learning process.

9. Major Problems

Developments in education in the 1980s and 1990s are perceived as being related to those taking place in other fields, such as economics, urban life, cultural life, and the aspirations of the young. Research of this type is part of the socioeconomic programme for the 1980s and 1990s and concerns the likely evolution of the world of work, science and technology, etc., and the impact of this evolution on education. An increase in the compulsory-school period to 12 years is envisaged, as is the promotion of a new methodology for the selection and sequencing of curriculum content and a better adaptation of structures, objectives, and methods to the demands of lifelong education.

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Rwanda

P. Brady

Rwanda is a small, landlocked republic in central Africa, known as "the country of a thousand hills." It has the highest population density in Africa at 200 people per square kilometer. The annual population growth rate was 3.4 percent in the 1970s, expected to rise to 3.5 percent, thereby producing an expected population of seven million by 1990 (World Bank 1982 pp. 110, 142).

Not only is Rwanda crowded, but the populace is divided into many isolated communities by the mountainous character of the land, so that distinct villages have not developed but, rather, families live in self-contained compounds or, most recently, in communes that democratically run their affairs in partnership with the state. At the same time, there is rapid rural exodus, with the population of the capital city of Kigali growing from 10,000 in 1965 to 117,749 in 1978 (Ntahobari 1981 p. 119, Europa 1985a p. 770). Adding to the population-growth problem has been the influx of refugees from the neighbouring countries of Burundi and Uganda.

Such geographic and demographic characteristics have presented the nation's educational planners with difficult challenges in their efforts to provide equal access to education for residents in all parts of the land and to build enough schools and furnish enough teachers for the rapidly increasing numbers of children.

A further combined educational and political problem is that of the ethnic composition of the nation. The Hutu, who are Bantu agriculturalists, compose 89 percent of the population but had essentially no political power until rebellions began in 1957. Until the creation in 1959 of the Parmehutu, a nationalist party of the Hutu, the Tutsi people (pastoral Hamitic-Nilotic nomads) representing 10 percent of the population, functioned as dictatorial lords over the serfed Hutu. This political arrangement had been encouraged by German colonizers who arrived in Rwanda in the late nineteenth century and was maintained after Belgium took over administration of the region following the First World War. The support of the Tutsi by the colonial administration and Christian missions, which were largely responsible for schooling, meant that the Tutsi alone received secular and missionary education. Government schools even became training centers for the Tutsi, many of whom were later appointed as chiefs. In 1929, an advanced education facility called the *Groupe Scolaire* was created in Butare to recruit sons of Tutsi chiefs, so that "in subsequent years the *Groupe Scolaire* became the grace-giving institution through which the Tutsi elites managed to perpetuate themselves in the seats of power, through which they gained the technical skills and training necessary for the preservation of their traditional claims to supremacy" (Lemarchand 1970 p. 74).

In the 1950s, the proportion of Hutu students began to rise dramatically, until in 1959 Hutu composed 33

percent of the *Groupe Scolaire* students. The Hutu leaders who ultimately challenged the caste system were from this group, who were "the first to claim more than a smattering of education" and who led the way to national independence in 1962 (Lemarchand 1970 p. 138).

Economically, Rwanda entered the 1980s in a most difficult condition, with 96 percent of the people engaged in agriculture but with "the agricultural sector . . . in a state of virtual stagnation" (Ntahobari 1981 p. 120). Not only was the nation facing great difficulties in feeding the growing population, but the amount of money available for developing the educational system was far short of the need. Rwanda has been trying to attain self-sufficiency in food production through a third five-year plan (1982-86), but a 1984 drought seriously affected the food supply and international relief aid had to be sought (Europa 1985a p. 772).

1. Educational Goals

The purpose of Belgium's colonial schools was to prepare the Tutsi minority elite for service to the foreign rulers and for managing the majority of Rwandese. With the end of Belgian and Tutsi control by the 1960s, the majority Hutu gained power and set new educational goals. According to the Schools Reform Program of 1979, the purpose of education is to promote national development and "bridge the gap between the school and the milieu," with the detailed objectives to be worked out during the 1980s (Ntahobari 1981 p. 123).

In a practical sense, parents, teachers, and adolescents would like primary and secondary schools to provide not only a general education, but also technical training that is useful in the rural world, such as skills for farming, carpentry, masonry, and basketwork.

2. Structure of the Educational System

The schooling hierarchy consists of primary, secondary, and tertiary levels. According to an extensive Schools Reform Programme in 1979, education is free and obligatory from ages 7 to 15, with parents deciding in which schools their children are to be educated (Europa 1982a p. 833, Europa 1985b p. 2457). Until 1979 primary schooling lasted six years; it was then extended to eight years in 1980, with an official age range from 7 to 14 years (UNESCO 1984 p. 72). Only a small percentage of primary-school graduates enter secondary education, which consists of a three-year general-education cycle followed by specialized education. Tertiary education is available at three institutions.

By 1982, 59 percent of the nation's primary-school age group were enrolled in school. Although 61 percent of the country's boys attended school and only 58 per-

cent of girls, the disparity between the two groups is considerably smaller than in most African countries (UNESCO 1985 p. 22). The total enrollment by 1983–84 was 761,955 (Europa 1985a p. 776).

Because of a shortage of facilities and teachers, the nation's primary schools have had to adopt a double timetable system for the first three years, thus markedly reducing the total time children spend in the primary grades. Reflecting the facility and teacher shortages, the number of primary schools dropped from 2,022 in 1970 to 1,536 in 1982, and the pupil-teacher ratio increased from 50:1 in 1975 to 55:1 in 1982 (UNESCO 1981 p. 3:101, UNESCO 1984 p. 72).

The fact that only 2 to 7 percent of primary-grade graduates continue into secondary education means that over 90 percent of primary-school leavers are not using their schooling as preparation for further training but are entering an adult work market at around 11 or 12 years of age. According to Erny (1974 pp. 721–22), the removal of a child from his or her milieu, and then not preparing the youth adequately for the world of work, creates "a disruptive adolescent age group" which lacks integration into economic life.

The first three years of secondary education consists of a common core of studies, with students subsequently entering one of three specialized streams: (a) two years of terminal technical or professional training, (b) three years of terminal technical or professional training, or (c) four years of academic education that represents the only channel to higher education. By 1983–84, the total enrollment in secondary schools was 14,761 (Europa 1985a p. 776).

Three types of tertiary education are available within the country. The most prestigious is that offered in the National University of Rwanda (*Université Nationale du Rwanda*) at Butare, on the site of the earlier *Tutsi du Rwanda*. Established in 1963 by the oriented *Groupe Scolaire*. Established in 1963 by the government and the Roman Catholic Dominican Order of Canada, the university is an autonomous public institution offering a program of three years for a baccalaureate and two additional years for the final degree. Medical studies take six years. By 1982, the total enrollment was 1,317. Another 603 Rwandans attended universities abroad, mainly in Belgium, the Federal Republic of Germany, France, or the Soviet Union (Europa 1982b pp. 1283, 1290, Europa 1985a p. 776). Among the fields of study at the university, that of education science and teacher training attracted only 6 percent of the institution's enrollment in 1977 of which only 15 percent were female (UNESCO 1985 p. 62).

Most secondary-school teachers are trained in a separate school, the National Institute of Pedagogy, founded in 1967 and financed almost entirely by the United Nations. The nation's third tertiary institution is the Higher Military Academy.

A further array of educational opportunities has been introduced to ease the transition toward economic and social integration. One type is a five-year technical-training plan. The *Centres d'Education Rurale et Arti-*

sanale du Rwanda (centers of rural and craft education of Rwanda, known as CERAR) with "family sections" for girls provide another example. Officially the objectives of these three-year programs are "to train young people so they become more productive and better informed members of their rural environment, more receptive to progress, eager to improve their own and their neighbours' living conditions" (Ntahobari 1981 p. 122). However, the centers attracted only 9 percent of primary-school terminators by 1976.

In the mid-1970s, there were at least 27 other types of out-of-school programs in the country, with the coordination of such a variety being a major problem.

Informal education is provided through radio, the cinema, the theater, the press, and street posters. By 1984, there were 175,000 radios able to receive entertainment and information broadcasts for rural populations and for the public schools, with broadcasts in three languages—Kinyarwanda, French, and Swahili (Europa 1982b p. 1280, Richmond 1982 p. 23, Europa 1985a p. 778).

3. Administration and Finance

Schools in Rwanda are operated by the state and by Christian missions, with educational affairs controlled by the Ministry of National Education. The government's council of ministers includes both a minister of primary and secondary education and a minister of higher education and scientific research. Administration of the schools is very centralized, with teachers required by school inspectors to adhere strictly to instructional manuals, thus allowing for little creativity in the classroom.

The government's concern for education after independence in 1962 was demonstrated by the allotment in 1963 of 30 percent of the total national budget to education, with three-fourths of the amount allocated to teachers' salaries (Nyrop 1969 p. 97). By 1979, the education allocation had dropped to 21 percent but still exceeded the national defense allocation of 17 percent (Europa 1982b p. 826), and by 1983 education was receiving 27.4 percent of the total national budget, while national defence only received 16.5 percent (Europa 1985a p. 775). The total education budget as a proportion of the gross national product remained nearly constant at around 2.3 percent throughout the 1970s. Such figures, however, do not reflect total expenditures for education, since a bulk of the expense for both public and mission schools has been paid by nongovernment sources, such as fees paid by parents.

4. Curricula, Teaching Methodology, and Research

The responsibility for curriculum development and the preparation of textbooks and audiovisual media is centered in a Directorate of Studies and Research within the *Institut Pédagogique National du Rwanda* at Butare.

Instruction in schools is in French, as a legacy of Belgian colonialism, and to some degree in Kinyarwanda, a Bantu language that serves as a unifier of the nation's ethnic groups.

The schools' curricula are distributed to teachers in the form of instructional manuals. There is increasingly an attempt to coordinate the manuals with the milieu, especially to revise elementary curricula and provide practical textbooks available even in Kinyarwanda, with practical examples of how pupils can apply basic agricultural and academic skills in daily life (Ntahobari 1981 p. 153, United States Department of State 1980 p. 2).

5. Supply of Personnel

Rwandan education has continually been plagued by a shortage of teachers and facilities. Furthermore, a high proportion of teachers are unqualified, especially at the primary level. In 1967, 63 percent of all primary teachers were judged insufficiently qualified, because most had only a primary education and the rest had less than two years of secondary education (Nyrop 1969 p. 99). At the university level, many of the teaching staff have been expatriates. In 1968, two-thirds of the university's professors were Belgian or Canadian, and so a national goal has been to fill such posts with Rwandans.

Preservice and inservice teacher training for the first three years of the secondary school is conducted at the Secondary Education Training Institute within the *Institut Pédagogique National*. During the 1970s, there was a 79 percent growth in the number of teacher-training students in the institute. Candidates for entrance to the institute must hold either a secondary-school certificate or a seventh-year teacher-training diploma or have passed an equivalency examination.

6. Examinations and Promotion

As a product of Belgian influence, Rwandan education maintains a strict system of examinations and promotion, contributing to a high attrition rate from class to class and between the primary and secondary levels. Although the incidence of failing and repeating at the primary level has dropped considerably (from 30 percent in 1970 to 6 percent in 1980), the opposite trend has appeared at the secondary level (from 3 percent in 1970 to 7 percent in 1980) (UNESCO 1983 pp. 58-59).

7. Major Problems

Six main problems face educational planners in the years ahead. First is that of general illiteracy, which was 75 percent in 1981. Even though mass education attempts at the primary level brought primary-age enrollment to 59 percent in 1982, literacy campaigns among adults are badly needed; but, as yet, no major efforts have been exerted to mount such campaigns.

A second problem is a lack of relevance of secondary education to the nation's personnel needs.

Third, further progress is needed in providing females with the same opportunities as males for both schooling and employment in the educational system. Nearly half of primary-level pupils were female by 1979, but only one-quarter of secondary students were girls and only 9 percent of teachers at the tertiary level were women (UNESCO 1981 pp. 3: 285-286).

Fourth, although agricultural innovation is necessary for increasing food production, only a very small number of advanced students specialize in agriculture, forestry, or fisheries; only 2 percent of all higher education students in 1977 were in such fields.

Fifth, population education is badly needed, since the Rwandan demographic situation has been judged "close to the breaking point in the equilibrium between population and directly accessible resources; and . . . cultural traditions show the greatest respect for fertility, which is considered an essential value in human life. How can these two, economics and culture, be reconciled?" (Ntahobari 1981 p. 158).

Finally, the large quantity of primary graduates who do not continue into secondary education are often discontented in their rural environments but ill-trained and unemployable in urban areas. Although numerous postprimary programs are available, they reach only a few young people, and Rwandans generally continue to display a distaste for vocational, nonacademic, and agricultural training.

Thus, solving such problems is the principal future challenge for Rwandan educators in their effort to establish a sound socioeconomic system soon enough for the nation to avoid severe sociopolitical consequences.

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Saudi Arabia

H. M. Al-Baadi

Saudi Arabia covers most of the world's largest peninsula, the Arabian Peninsula, which occupies the southwestern corner of Asia. Of the Peninsula's total land area of about 3 million square kilometers, Saudi Arabia comprises nearly 2,200,000 square kilometers (849,420 square miles). The country is bounded by the Arabian-Persian Gulf, Qatar, and the United Arab Emirates to the east; Oman, the Yemen Arab Republic, and the People's Democratic Republic of Yemen to the south; the Red Sea and the Gulf of Aqaba to the west; and by Jordan, Iraq, and Kuwait to the north.

The official name of the country, the Kingdom of Saudi Arabia, came into existence in 1932 when Abdul-Azeez Ibn Abdur-Rahman al Saud, who was simultaneously King of Hijaz and Sultan of Najd and Dependencies, united the two parts of his state under one administration and one name. The word *Saudi* itself is derived from the name of the ruling house of Saud. The house of Saud has ruled most of what is now Saudi Arabia on and off since 1744, when its founder, Muhammad Ibn Saud, emir (governor) of a small semi-independent village-state in Najd (the central region of Arabia), entered into a politico-religious alliance with Muhammad Ibn Abdul-Wahhab, a fundamentalist Muslim reformer. The alliance provided the Saudi state with legitimacy and the fundamentalist reformer with military and political support in his attempts to "purify" the popular faith and rid it of unorthodox beliefs and practices. Today this alliance is still active between the descendants of Muhammad Ibn Saud, on the one hand, and the descendants of Muhammad Ibn Abdul-Wahhab and the network of Wahhabi *ulama* (religious savants), on the other, and constitutes an essential part of the Saudi state's legitimacy.

Except for the mountainous southwestern province of Aseer, Saudi Arabia is a predominantly arid desert that receives an average annual rainfall of about 100 millimeters.

Historically, the country's harsh environment, coupled with malnutrition and the lack of health-care facilities, resulted in a low population density. During the 1930s the population was estimated at 1.5 to 2 million people (Stacey International 1977 p. 18). The increases in oil income, especially during the 1960s and 1970s, and the subsequent improvements in income, nutrition, and health care, have resulted in a reduction of the rate of infant mortality, a rise in life expectancy, and almost the elimination of emigration. Today the country has a population of about 3 to 3.5 million. With

an annual birth rate of 49 per thousand and a death rate of 19 per thousand, and with about 45 percent of the population being less than 15 years old, the native population can be expected to be around 6 million in the year 2000. Besides the native population, however, an estimated 1.5 to 2 million foreigners live in the country, constituting more than half the labor force.

The oil industry and development-related works and projects have resulted in the rapid urbanization of the peasant and nomadic population. In 1970, some 20 percent of the population was estimated to be living in metropolitan areas (towns of more than 100,000 people); 20 percent in small towns; and 60 percent in rural areas. Corresponding percentages for 1980 were 42, 12, and 46 percent, respectively. (Saudi Arabia, Ministry of Planning 1980 p. 56). The nomadic (Bedouin) population is gradually decreasing. It is now estimated to be about 3 to 6 percent of the total native population.

Prior to the beginning of commercial production of oil in eastern Arabia in 1938, the Saudi government's income was very meager and came mainly from foreign aid, revenues from foreign Moslem pilgrims, and an annual tax (tithe) levied on the land's animals and agricultural produce. Prior to 1938, the government's total income may never have exceeded US\$5 million in any single year (Cheney 1958 p. 34). In 1945, the government received its first sizable royalty from oil, US\$20 million. The oil income has since rocketed. In 1980, it was more than US\$120 billion. These income increases have resulted in fundamental demographic, social, and economic changes such as rapid urbanization of most of the population, an almost total dependence on oil-based income, diminution of the value of most forms of traditional production (e.g., agriculture, herding, and fishing) and an unprecedented rise in the importance of the government's role as receiver of national income, provider of social services, and planner and administrator of "national development" (a first five-year development plan was initiated in 1970, a second in 1975, and a third in 1980). The major goals of the latter have been: (a) to diversify the economic base by encouraging development in agriculture, mining, and industry; (b) to provide sufficient medical, education, and social services to the population; and (c) to increase the number of and skills of the Saudi labor force (Saudi Arabia, Ministry of Planning 1980 p. 16-18). Within the national development effort, the educational system is charged with three objectives: (a) to

provide at least basic education for all citizens; (b) to provide students with the skills that are required by the changing needs of the economy; and (c) to educate the students in the beliefs, practices, and values of the Islamic culture.

1. General Structure and Size of the Educational System

1.1 Formal Education

The Supreme Council of Education has the role of coordinating the educational effort in Saudi Arabia. Under its authority are four major educational bodies whose varying sizes and continuous independence of each other, reflect the effect of the cultural and socio-economic factors mentioned above. Each of these bodies will be briefly described.

Firstly, the Ministry of Education was established in 1954 to replace the Directorate General of Education which had been in charge of the educational effort since 1926. Prior to 1926 the educational effort was mostly limited to koranic schools (*kuttab*) that taught the fundamentals of religion, literacy, and arithmetic. Trades and crafts were learnt through apprenticeship. Scholarship had an almost exclusively religious nature and talented *kuttab* students obtained further training in Arabic and the Sharia (Islamic) law by attending more

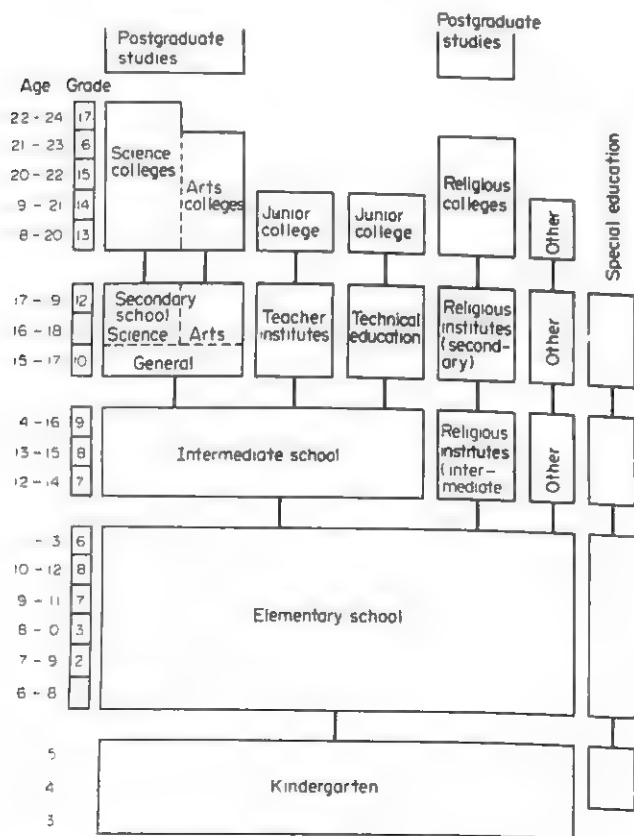


Figure 1
Structure of the educational system

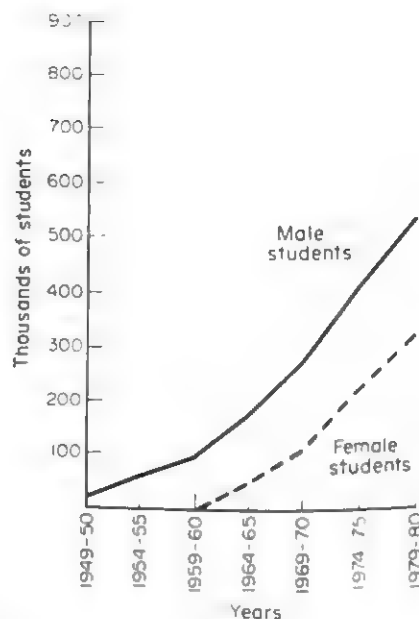


Figure 2
Elementary-school enrollment 1950-80

specialized lectures from established authorities in these subjects.

Attempts to introduce more secular topics were started in the late 1800s by Moslem philanthropists from other lands. A few partly secular schools were established in al-Hijaz, the western province of Arabia. In 1926, when the Directorate General of Education was established, the country had about 12 such schools with a total enrollment of about 700 pupils (Jamal 1945 pp. 20-22). Nearly 25 years later, in 1950-51, the country had 325 government schools and 40 private schools, with a total enrollment of about 42,000 students (Twitchell 1953 p. 184).

The rise in school enrollment reflected the changes in the socioeconomic conditions of the country. These changes have continued to take place at an accelerated pace and in 1978-79, nearly 25 years after its establishment, the Ministry of Education operated 6,580 schools with a total enrollment of 758,614 male students at predominantly the elementary, intermediate, and secondary stages. This number accounted for nearly 57 percent of the total student body in the country (Ministry of Education Data Center 1980).

Secondly, the General Administration of Girls' Education (GAGE) was established in 1960. Objections from concerned parents and *ulama* (religious savants) to girls' schools, based on the fear that such modern schools might have undesirable effects on girls, delayed the establishment of these schools, by the government, until 1960. Girls' schools were put under the *ulama*'s own administration and were thus independent of the Ministry of Education. In its first year, GAGE opened 16 schools. Less than 20 years later, in 1979-80, GAGE operated 2,644 schools, mostly elementary, intermediate, and secondary, with a total enrollment of

425,042 (female) students. These students make up 32 percent of the total student body in the country (Saudi Arabia, Ministry of Education, Center for Statistical Data 1980).

Thirdly, there are other government educational organizations. In 1979–80, almost 6 percent of all students in Saudi Arabia were enrolled in educational institutions that did not come under either the Ministry of Education or GAGE. These institutions were operated by the Ministry of Higher Education or the Ministries of Defense, Health, Social Affairs, Communications or one of the other government agencies which offer specialized kinds of instruction.

Fourthly, private schools are the oldest type of school in modern Saudi Arabia. Prior to the availability of government schools, well-off families used to send their children to private schools in neighboring countries or to the few private schools that existed inside Saudi Arabia. In 1950–51, private schools constituted about 11 percent of all schools in the country (40 out of 365). In 1979–80 they made up about 4.3 percent of all schools (433 out of 10,018). The decline in the share of private schools in the educational effort reflects the tremendous increase in the number of government schools. None the less, there has been an actual increase of 393 private schools since 1950–51. The increase in these schools reflects two developments in the socioeconomic conditions of Saudi society, namely (a) the rise in the number of working mothers who send their small children to day care centers and kindergartens, which make up nearly one-third of all private schools; and (b) the increase in the size of the upper-middle and middle classes some of whose members often choose to send their children to privately run schools where the quality

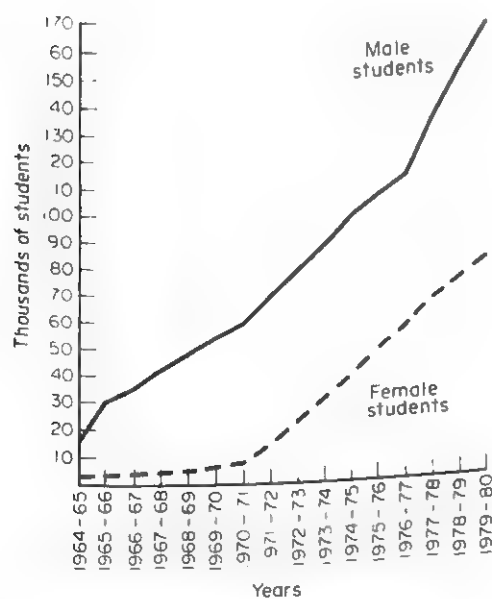


Figure 3
Intermediate-school enrollment 1965–80

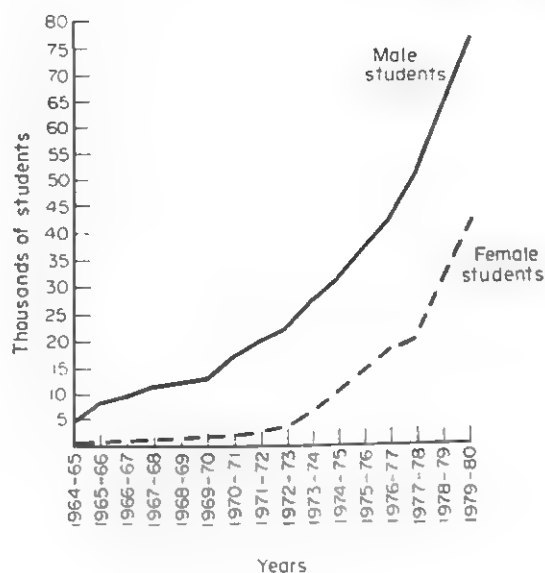


Figure 4
Secondary-school enrollment 1965–80

of instruction is thought to be usually better than in the public schools. In 1979–80, there were 65,635 private-school students in the country (41,154 boys and 24,481 girls) accounting for nearly 5 percent of the total student body.

While the organizations that administer formal education in Saudi Arabia are various and independent of each other, the basic plan of their programs is almost identical. There are six years of elementary school that begin after the child has reached the age of 6. The next stage is the intermediate or middle stage which lasts three years. A third stage is the secondary stage which also lasts three years. Students who go on to college spend an average of four years obtaining a bachelor's degree in the social sciences or arts or an average of five years obtaining a bachelor's degree in the exact sciences. Figure 1 represents the general flow of the educational system in Saudi Arabia. Figures 2, 3, and 4 represent developments in elementary, intermediate, and secondary enrollment since the 1950s.

1.2 Nonformal Education

Of the country's 1979–80 student enrollment of 1,451,754, about 9.8 percent (142,370) were enrolled in adult education programs that were administered by the same four major educational institutions that administer formal education programs. The shares of nonformal students between these institutions are shown in Table 1.

The general purpose of adult education in Saudi Arabia is the eradication of illiteracy. Between 70 and 80 percent of all Saudi adults of 15 years of age and older were estimated in 1982 to be illiterate, a reduction from a UNESCO 1962 estimate of 97.5 percent. While

Table 1
Distribution of students in adult education

Institution	Total number of students	Male	Female
Ministry of Education	91,280	91,280	
GAGE	37,744		37,744
Other government organizations	11,254	11,163	91
Private schools	2,092	951	1,141
Total	142,370	103,394	38,976

illiteracy eradication is a goal in itself for some, the majority of adult students probably enrol in order to obtain the basic literacy requirements of private and government employers or to improve their chances for promotion with such employers. Skill training is not an objective of adult education in Saudi Arabia except in a small number of private and government women's schools where programs to teach typing, tailoring, and other skills are becoming increasingly popular among women who want to join an increasingly specialty oriented job market.

2. Administrative and Supervisory Structure and Operation

During the school year 1979-80, Saudi schools had a total enrollment of 1,451,754 students (see Table 2). Of these students, nearly 56.9 percent (826,162 males and 488 females) were at schools operated by the Ministry of Education; nearly 32.5 percent were at GAGE schools (622 males and 471,451 females); nearly 5.8 percent (72,135 males and 12,547 females) were at schools run by other government organizations; and nearly 4.7 percent (42,922 males and 25,427 females) were at private schools.

Table 2
Enrollment 1979-80

Stage	Enrollment	% of total enrollment
Kindergarten	24,448	1.68
Elementary	862,259	59.39
Intermediate	245,471	16.91
Secondary	116,539	8.03
Junior college	4,877	0.33
Special education	1,920	0.13
University education	46,633	3.21
Adult education	142,370	9.81
Other types	7,237	0.50
Totals	1,451,754	100

The Ministry of Education specializes in general elementary, intermediate, and secondary education of males, although it also operates a number of specialized institutes. The General Administration of Girls' Education has an almost identical function with respect to females except that it also operates its own women's colleges. The Ministry of Higher Education supervises the country's universities. These universities serve different provinces. The King Saud University in Riyadh, King Abdul-Azeez University in Jiddah, and King Faisal University in Dammam offer programs in the arts and sciences. The University of Petroleum and Minerals predominantly offers programs in engineering. The Imam Muhammad Ibn Saud Islamic University in Riyadh and the Islamic University at Madeenah are religiously oriented and offer mainly training in religious studies, Islamic law, and Arabic.

The overwhelming majority of schools in Saudi Arabia are administered at three levels: a building level, a district level, and a national level. At the building level, the school principal handles the day-to-day operation of the school (discipline, scheduling, attendance, registration, supervision of the teachers, etc.). All schools in a particular district belong to a district directorate which constitutes the link between the individual school and the ministry or government organization it belongs to. The district directorate handles the placement of teachers, disputes between teachers and principals, parent petitions, school logistics, and the like. The ministry or other national-level agency is located in the country's capital Riyadh. Its general functions are the hiring of personnel, setting of educational policies and curricula, allocation of financial resources, planning, textbook selection and printing, and, in sum, the overall supervision and administration of the educational effort.

3. Finance

Except for private schools, which depend, in part, on tuition fees paid by the students' families, all schools in Saudi Arabia are free of charge to all students. Some educational institutions, for example, colleges, religious institutes, and technical and special education institutes, even offer their students a monthly allowance. As shown in Table 3, government expenditure on education has greatly increased since the 1960s, reflecting two interdependent factors: the increase in the government's revenues from oil and the expansion of the educational effort both horizontally and vertically.

Although there has been a steady increase in government expenditure on education over this period, the sudden jump in the 1979-80 allotment reflects to some extent the government's determination to establish and multiply the physical facilities for education at all levels. A majority of elementary and intermediate schools function in rented buildings many of which are considered unfit. A 1979 government publication stated that "a very rough calculation indicates that government is spending a little over 500 riyals per head in the total

Table 3
Government expenditures on education in selected years

Year	Expenditure on education (thousands of riyals)	Share of total budget (%)
1945	130	6.5
1949-50	9,433	7.5
1954-55	48,000	6.3
1959-60	122,068	16.5
1964-65	408,000	13.0
1969-70	596,000	10.0
1974-75	3,760,000	8.2
1979-80	16,269,082	10.2

population on education and incurring an average of about 4,000 riyals per student enrolled in various levels and types of education" (Saudi Arabia, Ministry of Education, Center for Statistical Data 1979 p. 109).

4. Supply of Personnel

The speed with which the educational effort has expanded in Saudi Arabia has resulted in shortages in numbers of personnel and in qualified personnel. Three main policies have been adopted to deal with these shortages: (a) the recruitment of foreign personnel, most of whom are teachers from neighboring Arab countries; (b) the employment of Saudi teaching and administrative staff whose training in education is often deficient; and (c) the building of training facilities for Saudi personnel. The qualifications of Saudi personnel have improved over the years. In their early years, the Ministry of Education and GAGE often hired teachers who possessed no higher qualification than literacy. To provide the expanding elementary-school system with the teachers they needed, elementary-teacher-preparation institutes were built. These institutes offered a

two-year program after elementary school. They were later upgraded to provide three years of teacher training after the intermediate school and now provide most of the Saudi teachers at the elementary level. Intermediate and secondary-school teachers are predominantly four-year college graduates although more and more Saudi teachers at the intermediate level may come from the newly established two-year teacher-training programs. There are nine four-year colleges of education in the country (four for males and five for females) which besides training teachers for the intermediate and secondary schools also occasionally offer inservice training to school teachers and principals.

Of the nearly 73,000 teachers who worked for the Ministry of Education and GAGE in 1979-80, almost 60 percent were Saudi nationals. The rest were expatriates. The non-Saudi teachers were in an obvious majority at the intermediate and secondary levels, as Table 4 shows.

5. Curriculum Development and Teaching Methodology

With little prior expertise in modern education, the educational system in Saudi Arabia basically adopted the Egyptian school curricula, adding a heavier emphasis on religious subjects. The curricula of both girls' and boys' schools are identical except that girls' schools offer classes in home management, cooking, and sewing which boys' schools do not offer. There is a heavier emphasis in boys' schools on physical education than there is in girls' schools. Private schools are supervised by either the Ministry of Education or GAGE and their curricula are basically identical to those of the public schools.

Both the Ministry of Education and GAGE have a curriculum department although little has changed in their educational programs since their inception. Both organizations hire the authors of the required textbooks, print the books, and distribute them among their schools. Thus, there is a uniform curriculum in the

Table 4
Proportion of Saudi teachers^a

Level	Ministry of Education		GAGE	
	No. of teachers	% (and no.) of Saudis	No. of teachers	% (and no.) of Saudis
Elementary	28,375	72.9 (20,685)	15,404	61.3 (9,443)
Intermediate	10,124	35.3 (3,574)	4,502	15.2 (684)
Secondary	3,122	27.0 (843)	1,896	15.3 (290)
Teacher training	855	19.4 (166)	1,000	9.0 (90)
Adult education	6,308	94.5 (5,961)	2,432	33.1 (805)
Other	1,872	48.7 (912)	307	56.4 (173)
Total	50,656	63.5 (32,140)	25,541	44.9 (11,485)

^a Source: Ministry of Planning 1980 pp. 310-12

Table 5
Subject matter areas and weekly hours of classroom study assigned to them

Subject	First grade	Sixth grade	Ninth grade	Twelfth grade	
				(Science)	(Arts)
Religious subjects	12	9	8	4	4
Arabic subjects	9	9	6	3	11
Social sciences	—	3	4	—	8
Mathematics	4	6	5	9	—
Science (and health)	2	4	4	12	—
Drawing	3	2	2	—	—
Physical education	2	2	1	1	1
English	—	—	6	6	6
Total	32	35	36	35	30

country. The general composition of this curriculum is shown in Table 5.

Implementation of the curriculum is ensured through a variety of means such as the school principal and visits by inspectors from the district office, as well as by a system of final examinations which cover all the material that is supposed to be taught in a particular semester.

Teaching methods differ from subject to subject. Teachers of religious subjects emphasize memorization of religious texts and rarely use any teaching aids other than the blackboard. Teachers of Arabic use the blackboard and also require a fair amount of text memorization. Teachers of science subjects use laboratories when they are available in their schools. Most school laboratories, however, are deficient either in equipment or in qualified personnel, or in both. Language laboratories exist in some elite schools for teaching English.

Arabic is the language of instruction throughout the elementary, intermediate, and secondary levels. At college, Arabic is the medium in the arts, humanities, and social sciences. English is the medium of instruction in engineering, medicine, and the natural sciences. There is a scarcity of college-level textbooks in Arabic, and college instructors who have to use Arabic often type up their own notes and use them as basic required texts. The result is a shallowness in educational standards in some college departments.

6. Examinations, Promotion, and Certification

In grades 1 through 12, the school year is divided into two semesters. The required instructional material for a year is divided into two halves. At the end of each semester, there is an examination that covers one half. The student's marks in two semesters are added up to make up his or her mark for the whole year. If the final mark is below a certain percentage, usually 50 percent, the student fails in that subject and sits another examination in the subject at the end of the summer recess. If the student fails again to attain the required minimum

mark, he or she has then to repeat the whole year, retaking all subjects of that year, including those already passed. Success in passing examinations thus constitutes the only criterion for promotion from one year or grade to a higher one.

Colleges also operate on a semester basis but, in a number of universities, the credit-unit system has been adopted and, thus, students who fail a particular subject do not have to repeat the whole year or semester but, rather, only the subject they failed, if it is a required one.

7. Educational Research

There is little educational research in Saudi Arabia. This is attributable to a number of factors such as the relative newness of educational institutions in the country; the inadequacy of graduate programs in the country's colleges and the lack of trained researchers and institutionalized research; the lack of pedagogical associations and journals; and the comparative irrelevance of the educational effort to the needs of development and socioeconomic change in the country. The last factor is particularly important because it indicates that there is no real sense of accountability in Saudi educational institutions, no agreed-upon set of criteria for evaluating the educational effort, and no serious internal or external pressure for change.

8. Major Problems

The most important problems facing education in Saudi Arabia in the next two decades probably include the following:

- (a) The educational effort must be made more relevant to the goals of national development. This is a major undertaking because those goals have to be defined in a more precise manner and because such an

effort will necessitate a total reorganization of the educational system in the country.

- (b) A greater effort needs to be made to prepare more native teachers, especially at the intermediate, secondary, and teacher-training levels.
- (c) Teaching methods and presentation of subject matter will have to be revitalized, especially in areas where they have traditionally been ineffective (e.g., Arabic language).
- (d) Illiteracy will have to be dealt with more effectively through such means as legislation for compulsory education for children and all government and private-sector workers and by making illiteracy eradication programs more relevant to development and the needs of social change.
- (e) The dropout problem will have to be dealt with more effectively especially at the elementary level where only 60 percent of first-graders make it through the sixth grade.
- (f) Imbalances between male and female enrollment levels will have to be corrected by increasing female enrollment.
- (g) The quality of school buildings remains a serious problem which has to be dealt with. School equipment also needs to be improved.
- (h) Educational research must both be part of the educational effort and serve to improve it.

In sum, the major challenge facing the educational system in Saudi Arabia in the next two decades is providing meaningful education to all citizens and residents and seeing that the educational effort is relevant

to the needs of a country undergoing exceptionally fast socioeconomic change.

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Senegal

P. Sonko-Godwin

Senegal covers an area of 196,192 square kilometers (75,730 square miles) on the west coast of Africa, bounded on the north, along the River Senegal, by Mauritania, on the east by Mali, on the south by Guinea and Guinea Bissau, and on the west by the Atlantic Ocean. Early in 1982, Senegal and the enclave of the Republic of Gambia formed the Confederation of Senegambia, with coordinated policies in defence and foreign and economic affairs. The respective educational systems, however, are dealt with separately in this Encyclopedia.

The population of 5,661,000 in 1980 had been increasing regularly over the previous decade at an average rate of 2.7 percent. The main ethnic groups are the Wolof, Tukolor, Fulani, Diola Serer, and Mandinka; there are also lesser numbers of other African ethnic

groups, and some 50,000 Lebanese, Syrians, and Europeans. In terms of religious affiliation, 90 percent of the population are Moslems, and the remaining 10 percent include Christians and followers of traditional African religions. Urban dwellers constitute 30 percent of the total population.

Three-quarters of the active population are occupied in the agricultural sector of the economy, which, however, accounted in 1979 for less than 30 percent of the gross domestic product (GDP). The main crop is groundnuts, but efforts are being made to diversify agriculture in order to reduce dependence on this crop, which has suffered severe setbacks from drought in the late 1970s and early 1980s. These efforts focus particularly on cotton, rice, sugar, and market gardening. Livestock production is also important.

Groundnut-oil extraction figures prominently in the highly developed industrial sector, which in 1979 accounted for 20 percent of GDP. The fishing and textile industries play an increasing part in this sector.

The president of the republic conducts national policy with the assistance of ministers (including the prime minister) whom he nominates. Both the president of the republic, who holds executive power, and the National Assembly, which has legislative power, are elected by universal, direct suffrage for a five-year term of office. The official language is French.

The first French school on the African continent south of the Sahara was founded in 1817 at St-Louis, even before the conquest of the whole of Senegal by France. Senegal became the starting point for efforts to develop French education in other colonies of West Africa at the end of the nineteenth and the beginning of the twentieth centuries. In Senegal were to be found the principal high-level educational institutions in Africa: the Teachers College, open to students from all the states, which trained both primary-school teachers and clerical staff for the administration and prepared students for admission to the Medical School; the Medical School itself; and the technical schools, which provided vocational training for the railways and postal and telecommunications services. The only two *lycées* in the French colonies in Africa were in Senegal: the *Lycée Faidherbe*, at St-Louis, and the *Lycée Van Vollenhoven* in Dakar. In 1957, the University of Dakar was created from the Institute of Higher Studies established in 1950. The educational policy had resulted in the emergence of a substantial educated elite, and in 1957–58, with the achievement of internal autonomy, enrollments in higher education were only slightly below 10 percent. When independence came in 1960, over 30 percent of primary-school-aged children were attending school. Since then considerable efforts have been made to develop education.

1. Structure of the Educational System and Enrollment

As in all developing countries, education is a major government priority, and the exercise of the right to education is an essential element of government policy. Education is compulsory for all children between the ages of 6 and 12 years. The educational system has a practical bias and is aimed at producing the skilled personnel needed to carry forward the development of the country.

Entrance into preschool, at the ages of 3 and 4, is the first step of most children into Senegal's educational system. In 1981, there were 8,515 pupils enrolled in the nation's 90 preschools (74 percent private), most of which are located in urban centers. Children then enter primary schools at the age of 6. The number of primary schools increased from 1,318 in 1970–71 to 1,792 in 1981. Of these, 1,503 or 83 percent were public schools

controlled by the government. During this period enrollment increased from 262,928 (101,734 girls) to 452,678 (179,594 girls). The enrollment of girls represents approximately 40 percent of the total. The average number of pupils per class was 51.53 in 1980 (52.4 in public schools and 43.7 in private schools).

The number of teaching staff rose from 5,843 (935 female) in 1970–71 to 10,586 (2,787 female) in 1981. Of the 1981 figure, approximately 8,029 or 75 percent were employed in the public sector, of which females totaled 1,765 or 22 percent. The pupil–teacher ratio was 43:1.

The orientation of the primary curriculum towards meeting the requirements of secondary schools accounted, to a considerable extent, for more than a 40 percent increase in secondary enrollments between 1970–71 and 1980–81. The enrollment in these years increased significantly from 59,401 in all secondary schools to 91,081 in general secondary schools, 1,920 in teacher-training institutes, and 10,820 in vocational secondary schools (UNESCO 1984).

In 1980, the average class size was 44.34 pupils at the lower-secondary level and 32.66 pupils at the upper-secondary level.

Secondary-school teaching staff increased from 2,285 in 1970 to 4,302 in 1980, an increase of nearly 100 percent. Notwithstanding efforts to employ national teachers, the presence of French technical assistance is increasingly felt in general upper-secondary and technical lower-secondary schools. National teachers account for 98 percent of the teaching staff in public, general lower-secondary schools.

The high priority which Senegalese educational policy accords to higher education has enabled the country to train senior personnel probably more rapidly than has been the case in most other French-speaking African states. In addition to the four faculties (letters and humanities, law and economic sciences, medicine and pharmacy, and sciences), there are seven schools and institutes attached to the university: the *École Normale Supérieure* (Institute of Education); the *École des Bibliothécaires, Archivistes et Documentalistes* (School of Librarians, Archivists, and Documentalists); the *Institut Universitaire de Technologie* (University Institute of Technology); the *Centre d'Études des Sciences et Techniques de l'Information* (Center for the Study of Information Science and Techniques); the *École Inter-états des Sciences et Médecine Vétérinaires* (Inter-state School of Veterinary Science and Medicine); the *Institut de Médecine Tropicale Appliquée* (Institute of Applied Tropical Medicine); and the *Cours de Langue et Civilisation Française* (French Language and Civilization Course).

Between 1970–71 and 1980–81, the number of students enrolled in the University of Dakar rose from 4,962 (831 women) to 13,560 (2,507 women). Foreign students made up 3,065 (752 women) of the 1980–81 enrollment. The teaching staff totalled 684, of whom 50 percent were Africans.

2. Administration and Finance

Educational administration is the responsibility of several ministries. The Ministry of Education is in charge of general primary, secondary, and higher education. The Ministry of Technical and Vocational Training supervises vocational education. The Ministry of Popular Education, Youth, and Sports is responsible for adult education. In addition, other ministries are in charge of the education of personnel falling within the jurisdiction of their special fields.

Funds for education are derived from the government's national budgets, from local funds, and from foreign aid. The expenditure on education has increased regularly over the years and constituted 33 percent of the recurrent budget by 1979-80. By the mid-1970s, nearly half of the country's education budget was being spent on primary schools, reflecting the government's aim of achieving 100 percent school attendance by primary-aged children in the near future.

Regarding recurrent expenditure on education, the figures indicated below show that the financial outlays for educational development were considerable and more than doubled between 1970 and 1980 in real terms: in 1970-71, an outlay of CFA 8,800 million, representing 3.8 percent of gross national product (GNP) and 22.3 percent of government recurrent expenditure; in 1980-81, CFA 19,090 million, representing 4.0 percent of GNP and 21.5 percent of government recurrent expenditure.

3. Reform and the Future

On February 11, 1980, the minister of education presented to the cabinet a paper on the second phase of the reform of technical education and vocational training. Following a further paper, presented to an

interministerial meeting on July 7, 1980, a number of decisions were taken which appeared in a document issued by the secretary general of the government on July 19, 1980. They concerned: the need to coordinate training (setting up a national office of vocational training); essential collaboration with socioprofessional counterparts (creating a body of advisers for technical education and vocational training); assessment of training needs; a better definition of training objectives; upgrading manual work; a reform of types of training, introducing sandwich courses with apprenticeship indentures; the importance of continuous training and further training; and the need for financial autonomy of workshops.

The *États généraux* of education and training held from January 28 to 31, 1981, on the initiative of the head of state, studied the concept of the Senegalese school of tomorrow. The convergences between the decisions of the interministerial meeting of July 7, 1980, mentioned above, and the conclusions of the interministerial meeting following the *États généraux* make it possible to pursue without delay the tasks undertaken.

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Seychelles

D. D'Offay

Lying in the Indian Ocean, between 3° and 11° S and between 46° and 57° E, the Republic of the Seychelles covers an area of about one million square kilometres. It includes more than 115 islands, representing a total surface area of 453 square kilometres (161 square miles). The main islands are Mahé (153 square kilometres), Praslin (38 square kilometres), and La Digue (10 square kilometres); these are granite islands, as are about 30 of the others; and about 70 are coralline.

In 1985, the population was estimated at 65,244. The approximate average rate of increase per year between 1977 and 1985 was 0.70 percent. The infant mortality rate (i.e., among those under 1 year old) was 17.9 per thousand in 1985, having been 43.2 in 1977. This sharp decline shows a clear improvement in sanitary conditions. The present population is descended from

European labourers, immigrants of African and Malgache extraction (at present in the majority), and Asians (Indian and Chinese). Creole is the first national language, the others being English and French.

In 1985, the active population was 22,000, some 34 percent of the total population, of which 5,660 are registered in the private sector and 12,500 in public employment and parastatal companies (the remainder being self-employed, family workers, and domestic workers). These two sectors are developing in opposite directions: the former diminished annually by an average of 5.6 percent between 1977 and 1985, while the latter increased by 14.8 percent per year during the same period. Broadly, the distribution is as follows: primary sector (agriculture, forests, and fishing) 12.5 percent; secondary sector (crafts, industry, and build-

Table 1
Percentage distribution by sector 1985

Sector	%
Agriculture (including fishing and forests)	6.9
Manufacturing, mines, and construction	16.1
Hotel and restaurant	8.2
Transport and distribution	42.1
Government services	16.2
Finances and services	10.5

ing) 23.9 percent; and tertiary sector (hotels, transport, distribution, communications, etc.) 63.6 percent.

There was an increase of 50 percent in the tertiary sector between 1977 and 1985. The growth rate for the secondary sector was 24 percent in the same period, while the primary sector declined by 4.8 percent. These figures reflect a rapid development in tourism, as well as in the social services, of which education is the most important from the point of view of employment.

The gross national product at 1984 market prices was 1,074 million rupees (roughly US\$2,350 per capita). The percentage distribution by sector is shown in Table 1. The relative unimportance of the productive primary and secondary sectors (23 percent) is noteworthy, as is the preponderance of the tertiary sector. Hence, the economy is characterized by a high rate of imports in relation to exports.

The Seychelles became independent on June 29, 1976. The present government has been in power since Liberation on June 5, 1977. With the help of the Seychelles People's Progressive Front (SPPF), it aims to maintain the political and economic independence of the country; to follow a policy of positive nonalignment; to adopt a socialist system which will guarantee a high standard of living for everyone; to respect human rights, and the equality and dignity of all; and to utilize the natural resources of both land and sea for the good of the country.

1. Aims of Education

Education in Seychelles has three major aims summarized in the following principles of national education policy:

- Education for all
- Education for life
- Education for personal and national development.

Immediately after liberation, the government took steps to put an end to an elitist system of education consisting of two parallel subsystems, which reflected a segregation based on the financial resources of families. Education of equal quality was made available to all on an equal basis. The government is committed to providing all Seychellois with an equal chance of achieving their full potential, consistent with their differing abilities and interests and with the needs of society.

In aiming to provide lifelong learning, the government has established formal and informal learning opportunities for persons of all ages. Learning programmes and materials have been orientated to Seychelles and its particular requirements for life and work.

Education is viewed by the government as a principal factor in both individual and national development. Consequently, educational programmes aim to develop knowledge, attitudes, and skills which ensure both personal satisfaction and full participation in society. At the higher levels, educational programmes are designed to provide the specific manpower necessary for national development projects.

2. Structure and Size of the Educational System

Figure 1 presents the structure of schooling.

2.1 Preprimary and Primary Education

Preprimary schools enrol children of 4 to 5 years of age. In 1977, preprimary education had to be paid for; it depended on private initiative, and was only attended

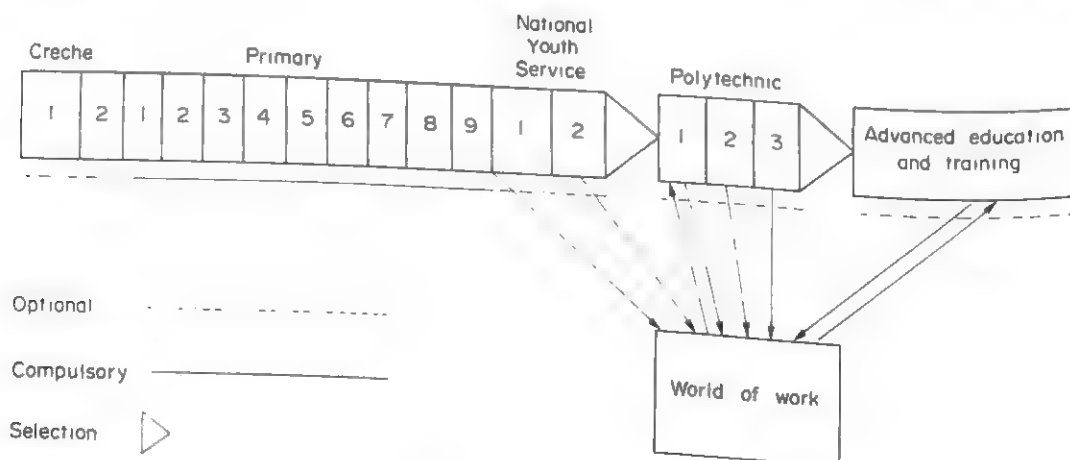


Figure 1
Structure of the educational system 1985

by a small number of children. By 1980, preschools belonged to the state, were free, and dispensed free meals. At the end of the 1985 school year, there were 4,081 pupils enrolled—virtually all the population of that age group.

The democratizing measures referred to above resulted in the fusion of the old primary schools (six-year period), called parish schools, with those of the first cycle of secondary education (three years); the nine years of compulsory schooling also involved children attending the primary school in the area in which they lived ("zoning"). The restructuring at this level was begun in 1978 and finished in 1980. The first four grades are taught by general teachers; the fifth and sixth are semi-specialized; the top three are specialized. Creole is the first language taught and the medium of instruction at the beginning of primary schooling. English and French are introduced in the second and fourth years respectively and English progressively becomes the medium of instruction from grade 5 onwards.

The educational effort can only be measured if one distinguishes lower and middle primary (grades 1–6) from upper primary (grades 7–9). In 1970, the number of pupils in the first six years of primary schooling was 9,227; in 1985, it was 9,678, an annual increase of 0.3 percent. At upper primary level, 1,980 students were enrolled in 1970, 3,614 in 1977, and 4,690 in 1985, making an annual growth rate of 5.9 percent over the period.

In order to assist slow learners a special programme of remedial education is offered with specialist teachers and specially designed learning materials. Special programmes are also available for pupils who have physical, mental, or social problems.

2.2 General Secondary Education

The restructuring of the primary system was finished in 1980; in 1981, that of the secondary system began with the creation of the National Youth Service (NYS). This consists of a cycle of progressive education lasting two years. During this time, young people not only follow a formal programme of secondary education, but they also participate in the life of the country, thus contributing to the achievement of self-reliance by taking part in community work and production.

The National Youth Service is now based in four villages of young people, democratically run groups of boarders. This project became completely operational in 1982, with the recruitment of the second year group of this two-year programme. In 1981, there were 806 students enrolled and in 1985 there were 2,435 (i.e., 80 percent of those completing grade 9). The figure for 1985 represents a mean annual growth of 18.3 percent over the period since 1970 when only 196 students were enrolled in the equivalent grades 10 and 11.

2.3 Further Education

Established in 1983, the Seychelles Polytechnic represented the third and final stage in the structural reform

Table 2
Enrolments in polytechnic education 1985

Department	Number of students
Education (teacher training)	170
Catering and tourism	68
Business studies (including secretarial and clerical)	197
Humanities and social sciences	126
Mathematics and sciences	207
Maritime studies	89
Agriculture	104
Art and design	130
Construction	101
Engineering	171
Health studies (nursing, etc.)	87
Social services (social work, etc.)	114
Total	1,540

of the education system. It regroups all the former vocational schools—the Nursing School (previously under the Ministry of Health), the Teacher Training College, the adult education section and the sixth form section of the Seychelles College. The vocational training programmes and the academic programmes are of one to three years duration.

In 1985, the Seychelles Polytechnic consisted of 12 departments. Enrolment figures for 1985 are shown in Table 2.

The figure of 1,540 in full-time studies when compared with that of 595 in equivalent studies in 1977 shows an average annual increase of 12.6 percent. The Polytechnic continues to expand and in 1986 the School of Journalism was added for students completing the three-year academic courses in the departments of humanities and social sciences.

Apart from those departments providing full-time education, there is a department of continuing education which offers a variety of evening courses leading to academic and professional examinations as well as courses in literacy and adult basic education.

The teaching of reading, writing, and numeracy to adults is considered necessary for the construction of the nation, since it will permit them to acquire knowledge and skills, and thus increase individual productivity; it will also enable them to take part more efficaciously in decision making at all levels. The teaching is in the mother tongue and first national language, Creole. When a sufficiently high level has been reached, the study of English or French is started.

3. Administration and Supervision

Administratively as well as pedagogically, all establishments within the educational system, except the National Youth Service, are under the Department of Education and Culture, which is part of the Ministry

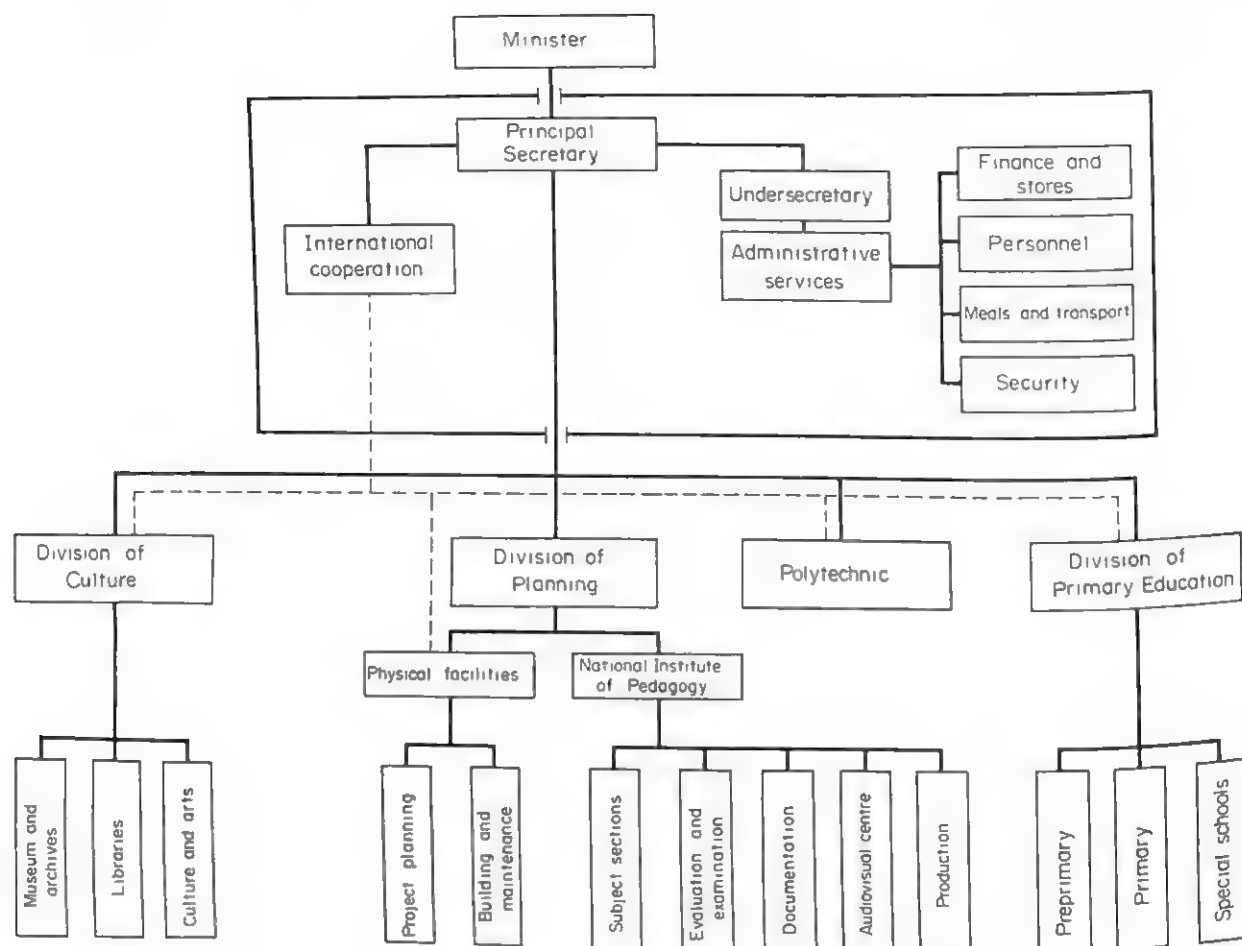


Figure 2
Structure of the Department of Education and Culture

of Education and Information. The National Youth Service is under the aegis of a council of which the Minister of Education is an ex officio member.

The rapid transformation of the educational system in 1978 meant a restructuring of the ministry, accomplished by a revision of procedures, which, while respecting the existing hierarchy, multiplied the functional, horizontal links. A system of delegation of authority works to ensure that those most directly affected by a decision participate fully in the decision-making process.

Figure 2 presents the structure of the Department of Education and Culture. As an educational reform necessitates new functions and organizations, the structure of the department has undergone major modification since 1979. A continuing emphasis on the qualitative improvement of the education system has led to the creation of the Planning Division which consists of two units: the National Institute of Pedagogy and the Physical Facilities Section. This division encompasses a variety of quality improvement roles relating to curriculum, teaching methods, general pedagogic innovation and teacher training and employment standards.

4. Finance

In the year of independence, 1976, educational expenditure accounted for 14.1 percent of the national budget. In 1985, this percentage for running costs only had risen to 17.0 (not including the National Youth Service). The percentage of running costs allotted to each level of

Table 3
Running costs as a percentage of the national budget, 1985

Level	%
Primary and preprimary	5.7
Polytechnic	3.0
Culture	0.3
Administration (including school meals, transport and scholarships for study abroad)	1.9
Pedagogy	0.8
Total for Department of Education and Culture	11.7
National Youth Service	5.3
Total	17.0

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Sierra Leone

S. S. McIntyre

The Republic of Sierra Leone is located on the bulge of the west coast of Africa. The southwestern boundary is defined by the Atlantic Ocean, and the northeastern and southeastern borders are adjacent to the People's Revolutionary Republic of Guinea and Liberia respectively. Sierra Leone comprises an area of approximately 71,140 square kilometers (27,699 square miles). From west to east it includes: a coastal region and rice-growing swamplands, rolling hills, and the high plateaus and mountains of the northeastern quadrant. The country is divided into four main administrative regions: the Western Area, and the Northern, Eastern, and Southern Provinces (Europa 1982).

It is important to note that the Western Area is somewhat distinct from the provinces. It includes the capital of Freetown, a city whose population of 3,474,000 in 1980 is around one-seventh of the nation's total. Freetown derives its name from its historical role as the site of a settlement for slaves from Britain and America who were freed and resettled during the late 1700s and the early 1800s. The inhabitants of Freetown came from a variety of backgrounds and were much influenced by the Western world. The generic term, Creoles, has been applied to the population of this area who developed a distinctive language and culture and established a strong trade economy.

Freetown also served as the center of British colonial rule over the country. In the early nineteenth century, the British governor and ruler of the Gold Coast settled in Freetown. In 1896, the Northern, Eastern, and Southern Provinces were brought under British jurisdiction with the decision to extend the colonial influence. Sierra Leone achieved independence in April 1961, after 10 years under a constitution allowing for gradual decolonization. In 1971, Sierra Leone adopted a republican constitution with an executive president rather than a prime minister. At this time, it achieved complete independence while remaining within the British Commonwealth. In 1978, a one-party republican constitution was officially put into effect by means of a national referendum.

Sierra Leone is now governed by the president and the cabinet members who exercise executive authority, by the unicameral House of Representatives to which

belongs legislative responsibility, and by the Supreme Court, Court of Appeals, High Court of Justice, and Magistrates' Court to which belong judicial authority. There is also a local level of government: Freetown has a mayor and an elected council, while the provinces each have a governing minister. Supporting each governing minister are local paramount chiefs and a council of elders. Lay judges exercise traditional law in the local courts (United States Department of State 1980).

The Northern, Eastern, and Southern Provinces are inhabited by over a dozen different indigenous cultural and linguistic groups. The two largest groups are the Mende and the Temne which each account for approximately 30 percent of the nation's population.

The provinces are important as the location of agricultural endeavors, an activity which employs over 70 percent of the labor force. Although much of agricultural production is at subsistence level, agricultural programs are presently being encouraged. This is done as part of an effort to exploit the economic potential of agricultural products as well as to encourage the rural population to remain in nonurban areas. In 1976-77, nonmonetary agricultural production contributed more than 25 percent to the gross domestic product (GDP). This percentage has grown and should continue to grow as the result of several programs such as the rice-production program supervised by the Sierra Leone Produce Marketing Board. Due to a very high annual rate of inflation and a decline of production in the mining sector, Sierra Leone continues to depend upon monetary aid for capital with which to pursue various programs aimed at economic and national development. In 1979, Sierra Leone entered into an agreement for economic aid from the International Monetary Fund (Hancock 1981).

1. Goals of the Educational System

The educational system is seen as an important vehicle toward national economic and social development. Official goals of the educational system as a whole include noncompulsory education of equal access to all children and the development of the individual within a framework which will serve the economic needs of the

nation (UNESCO 1979). Concern has also been voiced that the system should encourage national and cultural awareness (Abraham 1978). The comprehensive national plan of 1974-75 to 1978-79 indicates a similar concern worded in pragmatic terms. It warns that a purely Western form of education which encourages rapid modernization may lead to the alienation of the child from rural society and to rapid rural-to-urban migration. This in turn may lead to overcrowding, unemployment, and poverty in the cities. It is suggested that during the first years of basic education the vernacular language be taught in order to promote a better match between the child's environment and the environment of the school. English may then become the language of instruction as the students progress in their studies.

It is important to note that there are informal and nonofficial educational goals and activities which may differ from those of the formal system. For example, it has been suggested that a greater emphasis needs to be placed on the development of primary education (Wood 1974). In the early 1980s, the illiteracy rate was approximately 85 percent and it was estimated that only 40 percent of children between 5 and 11 years of age were attending school (Europa 1982 pp. 1360-72). School enrollment is especially low in the rural areas where families do not encourage a Western English-language education and where the way of life does not benefit directly from the formal curriculum. As a result of this situation, various trial programs have been started in order to make education more attractive to the rural populace and to encourage the people to remain in the rural areas once they have been educated. These programs are centered around the notion of teaching modern agricultural skills and information. For example, there is a two-year postprimary course at the Bumpo Secondary School where teachers are trained to become rural science/agriculture instructors. Unfortunately, there is a high dropout rate and little enthusiasm among potential teachers to be placed in rural schools. Other programs with similar goals include the Kenema Rural Training Institute and the Njala University College Agricultural Program.

There likewise exists an informal-education goal and associated nonofficial activities in the city of Freetown where the problems are somewhat different. Here, a relatively high percentage of enrollment has led to a situation where educated young adults cannot find employment. Such unofficial organizations as the Boys' Society of Sierra Leone seek to provide volunteer and minimal-pay jobs with vocational and educational value for young men (Wood 1974 pp. 176-85).

2. School Structure and the System of Examinations

As may be seen in Fig. 1, there are various paths that a student may follow after completing primary school. Admission to primary schools is not selective though

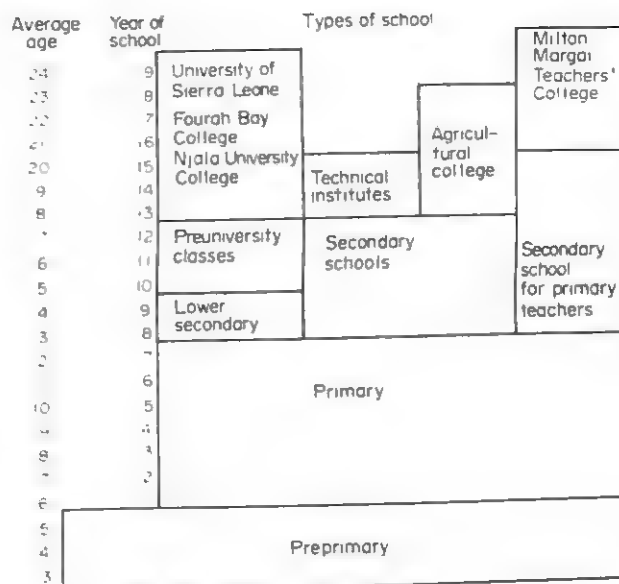


Figure 1
Structure of the educational system

parents must be willing and able to pay educational fees. Examinations are taken at the end of primary school, secondary school, and in the various post-secondary programs. Entrance to the universities, colleges, technical schools, and training institutes depends upon previous course work, examination scores, and the student's area of interest. National examinations include the General Certificate of Education (GCE) and the West African Higher School Certificate. Both examinations are under the direction of the West African Examinations Council.

3. Administration and Finances

The Ministry of Education is the administrative body which guides the educational system at the national level. Its organization is as follows. Underneath the minister, deputy minister, and permanent secretary, the staff is divided into the professional and administrative branches. The professional staff are in turn headed by the chief education officer, a deputy and assistant, and underneath them principal education officers for: teacher-training schools, primary schools, secondary schools, research and adult education, teaching

Table 1
National and local education coordination

Educational level/area	Advisory body
Most primary schools	District committee
Secondary and teacher education	Boards of governors
Freetown primary schools	Freetown City Council
Primary schools: Western Area, excluding Freetown	Rural Education Committee

materials, technical education, physical education, arts education, and home economics.

The national Ministry of Education is supported by government funds. All levels of education also depend upon support from private sources including parents, students, business corporations, and religious organizations. Most primary and secondary students must pay fees, though a few receive scholarships. Students in the teacher-training colleges and the universities receive government fellowships which cover most of their educational expenses (UNESCO 1979 pp. 44-46).

4. Teacher Training and Curriculum Development

In 1978, there were a total of 1,118 primary schools, 143 secondary schools, 4 trade and technical institutes, 6 teacher-training colleges, and 1 teacher-training university. In 1975, there were 6,373 primary teachers, 2,596 secondary teachers, 120 teacher-training teachers, and 289 teachers in the higher education establishments.

Primary teachers are trained in a special eight-year secondary program after seven years of primary school and the successful completion of two passes in the GCE examination or the West African School Certificate examination. Upon finishing the eight-year course students receive the Teachers' Certificate.

Secondary teachers are trained in university and college programs after completing secondary school and passing four GCE subject levels. The students of this program receive the Higher Teachers' Certificate. Graduate study in education may be undertaken at the Department of Education at Fourah Bay College and at Njala University College. There are also some mini-courses made available each year to teachers in order to update and enrich knowledge of teaching techniques and subject-area content.

Primary teachers instruct a core curriculum, including reading, writing, arithmetic, and a supplementary curriculum of geography, history, and civics. Secondary teachers offer a core curriculum during the first three years after which time various speciality courses are offered. English is the language of instruction for all subjects.

Curriculum implementation and quality control are the responsibility of the Ministry of Education aided by inspectors of the schools and the school principals. As is the case with personnel, instructional materials are at times difficult to find and shortages exist on costly imported supplies. The suggestion has been made that distribution centers are needed at the district level and that such problems might be overcome if Sierra Leone were to produce more of its own instructional materials (Abraham 1978).

5. Final Considerations

Education in Sierra Leone is responsible for carefully guiding the development of the nation. On the one hand, modern techniques and literacy must be encouraged in order to raise the country to a position of economic strength within the international community. On the other hand, national pride and cultural awareness must be fostered for the sake of social well-being. Research conducted by the various divisions of the Ministry of Education and by university faculty and students may help to guide educational goals and policies.

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Singapore

R. M. Thomas

The Republic of Singapore is a city-state located on the southern tip of continental Southeast Asia. It is a former British colony and continues to be the busiest port on the China-India sea-trade routes. Singapore attained its present status of political independence in 1965 after an uneasy two years as part of the newly created nation of Malaysia.

The country is densely populated, with 2.4 million citizens (1980) living on 597 square kilometers (231 square miles) of land and a population density of 3,907

(1980) people per square kilometer. Over two-thirds of the residents live in high-rise apartment buildings on housing estates. To prevent further overcrowding, the government during the 1970s implemented a vigorous family-planning program that lowered the annual population growth rate from 2.5 percent in 1965 to 1.2 percent in 1980.

Such demographic conditions have meant that schools are relatively near pupils' homes and that communications between the Ministry of Education and all

schools are rapid and inexpensive. Supplies are quickly transported to schools, and teachers from all sections of the city-state can be easily collected to attend inservice training sessions.

The country is devoid of natural resources, and so must depend upon its strategic location as a seaport and the efficiency of its labor force to build a viable economy around trade and manufacturing. Its government has been described as "paternalistic authoritarianism . . . honest, efficient, highly organized, prudish, vehemently anticommunist, and convinced of its own superiority" (Skolnik 1976 p. 10).

The multilingual character of Singaporean society has posed problems as to the most appropriate language, or languages, to use in government, commerce, and the schools. In terms of ethnic origin, the majority of the population is Chinese, whose ancestors came from different parts of China where different dialects were spoken. Over past decades, some of the Chinese have retained their native dialects, many have learned the Chinese national tongue (Hanyu Pinyin-Mandarin), and others have learned the language of the British colonials, English. As a result, 1980 census data showed that, among literate Chinese over the age of 10, 48 percent were literate only in Chinese, 20 percent were literate only in English, and 30 percent were literate in both languages.

In addition to the Chinese majority, there are large minorities of Indian and Malay-Indonesian stock. In colonial times, British authorities, while requiring English as the language of government and advanced schooling, fostered ethnic segregation and the establishment of separate schools taught in Chinese, Tamil (for those from southern India), and Malay. With this legacy from colonial days of racial separation and multilingualism, the new republic's political and educational leaders have faced the task of molding the several ethnic strains into a unified polity whose members can readily communicate with each other and feel a sense of cultural cohesion.

The government has sought to solve the language problem by adopting English as the language of government and trade, the most practical medium for international communication and one that shows no favoritism towards any of the nation's major ethnic groups. In 1973 a bilingual policy was pursued in education, requiring all students to know English (either as a first or second language) and one other major language of the community. However, by the early 1980s, the educational authorities had decided that such an ambitious goal was not feasible for all students, and so some modification was attempted. In the 1980s, most students strive to become bilingual, but the less apt are expected to achieve literacy in only one tongue. While separate language streams are still maintained in the schools, there is a tendency for more and more parents to enroll their children in the stream that uses English as the medium of instruction because better opportunities for jobs and higher education are available to students

fluent in English (Postlethwaite and Thomas 1980 pp. 187-95, 201-08).

1. Enrollment Trends

In 1959, prior to the full independence of Singapore as a republic, the People's Action Party (PAP) won control of the government, a control maintained into the 1980s. The party invested large sums in expanding school facilities and teacher education while at the same time implementing a strong family-planning program that slowed the pace of population growth and helped make the goal of universal primary schooling a feasible one. As a consequence, by 1968, all children of primary-school age were in school. Enrollments after the early 1970s regularly declined because of the reduction in population growth (see Fig. 1).

In addition to reaching the goal of universal primary schooling, the nation has expanded secondary and post-secondary education in a pattern that has reflected the economic-development needs of the society. One of the key characteristics of progress over the past two decades has been the close coordination between the perceptions of government and private industry of what constitutes proper socioeconomic growth and the implications these perceptions hold for both formal and nonformal educational programs. Data for estimating work force requirements are gathered by means of annual surveys of the labor force, of regular surveys of the supply of specific kinds of manpower, and of studies tracing the employment patterns of school leavers.

In 1982, children in the nation's 235 nursery schools and kindergartens totaled 23,389. The enrollment in primary schools was 289,092, in secondary schools 187,148, and in higher education institutions 30,966. At the secondary level, 94 percent of the students were in general academic schools and 6 percent in vocational education programs. The proportion of male to female pupils was 52/48 at the preschool level, 53/47 in primary schools, 51/49 in secondary schools, and 60/40 in tertiary institutions. There were 815 teachers in preschools, 10,286 teachers in primary schools and 10,237 teachers

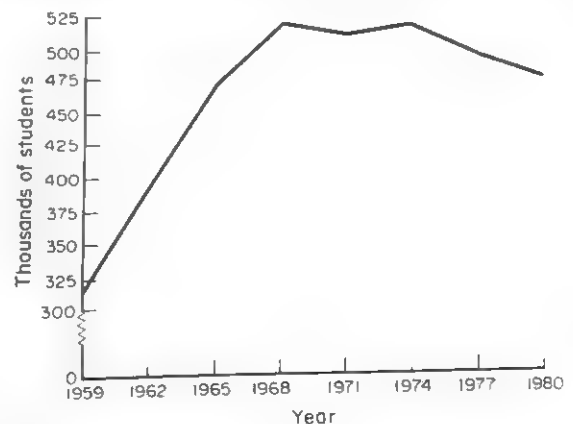


Figure 1
Primary-school enrollment

in secondary schools. The teacher/pupil ratio in primary schools was 1:28. At each level the majority of teachers were female, ranging from 100 percent at the preschool level to 69 percent in primary schools and 54 percent in secondary schools (UNESCO 1984).

2. Structure, Administration, and Finance

All schools, government and aided, operate under the jurisdiction of the Ministry of Education. As illustrated in Fig. 2, multiple language streams continue to operate, although efforts have been made to merge streams by locating several of them within the same school building in order to encourage interaction among students and thereby to promote a sense of national unity.

Many of the nonformal opportunities consist of apprenticeship training, on-the-job instruction, evening and weekend classes, and instruction via radio and television. Often these programs are conducted by private organizations, including industrial and business firms that work in close cooperation with the government. Large numbers of Singaporean residents enroll in such courses each year.

During the 1970s, about two-thirds of the nation's schools were operated and financed by the government, while most of the remaining third were aided schools that received government financial subsidies covering staff salaries and a large portion of development costs.

3. Curricula and Examinations

The role of the six-year primary school is to teach the basic skills of literacy and numeracy, basic knowledge of the social and physical world, moral education, and such work habits as diligence, promptness, and preciseness.

During the first two years of secondary school, all

pupils follow a common curriculum comprising academic subjects (first and second languages, moral education, history, geography, science, and mathematics) and either workshop practice or home economics. During the next two years of secondary school, students follow a core curriculum comprising the first language, the second language, mathematics, a science subject, an arts subject, religious education, and three electives. At the end of the fourth year of secondary school, students sit for the Singapore-Cambridge General Certificate of Education (GCE) Ordinary-(O')level examinations. Those who pass at a high grade are entitled to enter a preuniversity course, after which they take the GCE Advanced-(A')level examinations that are the chief filter for admission to the National University of Singapore and the Institute of Education.

Development of curriculum materials in Singapore is mainly the responsibility of the Curriculum Development Institute of Singapore, a division of the Ministry of Education, which enlists the aid of experts from the Institute of Education and the city's public schools. However, overall curriculum planning is coordinated by the curriculum branch of the ministry's schools division.

Decisions about whether a student should pass to the next higher grade within a given school are based on teachers' assessments of the student's performance in classroom tests and assignments. However, the decision about whether a student advances to the next higher school in the educational structure depends on the student's score in the nationwide examinations that all pupils take at the end of the primary and secondary levels. Streaming takes place as early as the end of grade 3 and, although there is provision for lateral transfers, such movements very rarely occur.

4. Supplying Educational Personnel

All teacher education is centered at the Institute of Education, founded in 1973 to incorporate the teacher-training and research-and-development functions formerly divided between the University of Singapore's School of Education and the Ministry of Education's Teacher-training College and Research Unit. During the 1950s and 1960s, the chief task of teacher educators was to supply the large numbers of teachers needed to serve the rapidly expanding quantity of pupils entering the schools. However, by the early 1970s the supply of teachers had sufficiently caught up with the needs of a declining school population to enable the Institute of Education to raise its standards of preservice training and concentrate on improving the quality of teaching through intensive programs of inservice upgrading. In the 1970s, emphasis was placed on testing instructional innovations imported from abroad or developed locally. In the early 1980s, research activities have been stepped up and, for this purpose, besides a substantial increase in the number of lecturers on staff development programs overseas and locally, the institute introduced a number of postgraduate programs, namely the Further Pro-

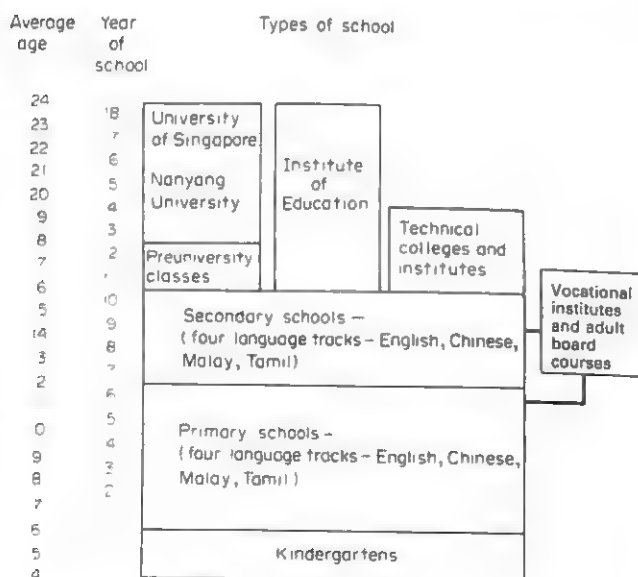


Figure 2
Structure of the educational system

professional Certificate in Education and the Master of Education programs.

Administrative and supervisory personnel are usually recruited from among the ranks of successful teachers and then given special training through upgrading courses on administrative and supervisory topics.

5. Educational Research

Most educational research centers on increasing the educational system's efficiency as an instrument for promoting the nation's cultural unity and economic prosperity. Some studies involve major investigations of the entire formal and nonformal educational enterprises as they relate to the pursuit of national goals (Goh 1979, Skolnik 1976). Others concern specific physical, administrative, or instructional aspects of the educational system, such as investigations of the condition of school buildings (1977) and the ability of primary-grade pupils to follow oral and written instruction (1975) that remain as unpublished reports within the Ministry of Education. In addition, students and staff members at the Institute of Education carry out individual studies directed at improving instruction or organization, studies that appear as students' theses or as special reports (Wong 1974). Research in the early 1980s, conducted mainly by the Institute of Education and the Research and Testing Division of the Ministry of Education, has been characterized by the twin strategies of "policy oriented pragmatism" and "enlightened opportunism" (Sim 1983a). With the recent shifts towards emphasizing

team projects, research studies of greater depth and breadth, including longitudinal or ongoing studies as well as interdisciplinary or multidisciplinary studies, seem to be emerging frequently.

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Somalia

I. M. Maimbolwa-Sinyangwe

The Republic of Somalia is located along the edge of the horn of eastern Africa, parallel to the Gulf of Aden on the north and to the Indian Ocean on the east. It borders on the French territory of the Afars and Issas in the northwest, Ethiopia in the west, and Kenya in the southwest.

The country covers approximately 637,000 square kilometers (245,946 square miles), with the land ranging from unproductive arid desert to semiarid, sparsely wooded savanna, rugged mountain peaks, and fertile plateaus and lowlands. The climate varies from tropical humidity in the south to cold winters in the highlands of the north.

An heir of two colonial systems, Somalia obtained its independence from the United Kingdom and Italy in July 1960. After the assassination of the first president, power was seized by the army, which set up a new government under a Supreme Revolutionary Council. In October 1970, the president of the Republic declared the country a socialist state and initiated a program of unification with social and economic reforms.

In 1980, 20 percent of the population of just over five million inhabited the urban areas and 80 percent the rural regions. Of the rural peoples, 60 percent are nomadic. Approximately 1.6 million of the country's population make up the labor force. Some 80 percent of the labor force are in subsistence farming and only 0.05 percent in the public sector (Gaal 1982). The country's economy, therefore, is based mainly on agriculture—subsistence farming and livestock-raising by nomadic tribes.

Unlike most African nations, Somalia has only one principal indigenous language, Somali, which was introduced into the educational system in 1972 after a satisfactory script had been devised for it.

1. Educational Background

In precolonial times, reading and writing in the Arabic language were taught along with arithmetic in Koranic schools, which were the only sources of formal

education. Such schools stressed memorization of the Koran as the chief instructional activity. Both boys and girls attended the Koranic schools for two years, with boys continuing beyond that period in order to gain a functional command of Arabic and some knowledge of Islamic law. However, only a small proportion of the population was schooled, so that as recently as 1972, when the Somali script was introduced, the nation's illiteracy rate was estimated to be 90 percent.

During the second half of the nineteenth century, Somalia fell under the colonial control of Italy and the United Kingdom, with the south administered by Italy and the north by the United Kingdom. Throughout the colonial period, Christian missionaries introduced secular education, which was generally rejected by the dominantly Moslem population, so that the Koranic schools continued to serve as the main source of formal schooling.

After the defeat of the Italian army in 1943 in East Africa, the Italian sector of Somalia came under British military rule. The British administration weakened the people's resistance to Western education and, as a consequence, more secular schools were built after 1950. This led to the greatest expansion of schooling of the entire colonial era. Following the Second World War, what had been Italian Somalia became an Italian Trust Territory whose administration established primary, secondary, and vocational schools and provided university education for Somalis. The goal of the administration was to prepare the indigenous people for positions in an independent Somalia. The British administration then set up schools for the same purpose. Under the separate colonial administrations, the northern and southern regions adopted different educational systems. The British in the north established an 11-year precollegiate schooling sequence consisting of three levels—a three-year primary school, four-year intermediate school, and four-year secondary school. In the south, the Italians established a 12-year sequence consisting of five years of primary education, three of intermediate, and four of secondary schooling. The language of instruction in the Italian sector was Italian throughout the 12-year sequence, while in the British territory Arabic was used in primary schools and English in the intermediate and secondary institutions.

By 1957, there were 137 primary schools in Italian Somaliland with an enrollment of 12,557 students. Only 50 percent of those entering school completed the five-year primary course. Institutions beyond the primary level were erected during the 1950s. A vocational school, established in 1958, enrolled 220 students in courses focusing on carpentry, construction, and mechanics, with enrollment doubled by 1960, when four more vocational institutions had been set up. A school of Islamic studies, established in 1952, provided courses in general education, Islamic law, and religious studies. By 1960, its student body totaled 189 students. A school of politics and administration, set up in 1950, was converted into a school of public finance and commerce in 1958. The

Higher Institute of Economics and Law, established in 1954, became the University of Somalia in 1960.

At the time of independence in 1960, British Somalia had 38 primary schools with a total enrollment of 2,020. At the intermediate level, there were 12 schools for boys as well as a secondary school enrolling 70 students. Vocational and trade schools were attended by 100 pupils, while 150 advanced students received degree or nondegree training in other African nations and in the United Kingdom.

The teaching corps in Italian Somalia exceeded that in the British territory. By 1959, in the Italian sectors, there were 200 foreign and 470 Somali teachers, with 290 of the local personnel holding teaching diplomas. At the same time there were only 45 trained and 85 untrained teachers in the British sector.

2. Structure of the Educational System

The years following independence saw an increase in the numbers of schools and students in both regions. The main concern of the government was to unify the two educational systems, a task that was accomplished in 1965 with the establishment of a four-year schooling sequence at each of the three school levels—primary, intermediate, and secondary. The unified structure closely followed the British model, continuing to employ Arabic as the language of instruction in primary grades and English in the intermediate and secondary schools. As attendance at a religious school was made a requirement for admission to the secular primary school, the number of Koranic schools increased rapidly until there was a school in almost every village.

Following independence, a new curriculum was developed emphasizing Somali culture and the local environment. New textbooks were prepared by Somali and Soviet educators, thus requiring that more money be allocated to the education sector. By 1977, 8.4 percent of the total public budget was spent on education.

The introduction of the Somali language into the school system in 1972 made learning easier for children newly entering the schools, so that the language of instruction was no longer a barrier to increasing enrollment. The 1970–75 literacy campaign, introduced by the revolutionary government, reduced the number of adult illiterates from 90 to 40 percent and then, in 1978, to around 25 percent.

Stimulated by the goal of achieving universal, compulsory, and free schooling, the country produced a marked increase in enrollment. Between 1970 and 1980, the number of primary schools grew by 417 percent, students by 458 percent, and teachers by 464 percent. The percentage of children aged 6 to 11 years attending school rose from 9 percent in 1970 to 58 percent in 1975. However, at the secondary-school level, only 4 percent of the population between ages 12 and 17 attended school, with the percentage since that time on the rise.

To help provide more teachers, a new teacher-training institute, Halane, opened in 1975, which produces

9,000 teachers each year. Furthermore, during the 1970s, the government introduced a self-help school-building program, whereby local communities constructed and expanded primary schools. Around 4,000 classrooms were constructed, with 60 percent of the cost coming from communities and 40 percent from the government.

Enrollments in higher education institutions also increased. At the University of Somalia, for example, attendance rose from 337 to 3,605 students between 1969 and 1978.

It has been expected that by the mid-1980s, about a quarter of the nation's primary-school leavers would enter the general stream of secondary education and around 15 percent would opt for specialized technical education. Table 1 shows a rise in the number of schools, pupils, and teachers in the early 1980s. Less than a quarter of the nation's primary-school leavers went to secondary school. In an effort to increase enrollment in primary schools, a three year educational program for nomadic children has been introduced. These children, however, attend school for only half of the year. There are plans to create comprehensive training centers for nomads. In addition, rural and urban programs have been introduced to help women develop skills, particularly those in the realm of home economics. Finally, a national library service is being developed with the assistance of UNESCO.

Educational development over the late 1970s and early 1980s included significant changes in the structure of the schooling hierarchy. In 1975, the intermediate school was discontinued and primary education extended from four to six years and then, in 1977, to eight years. The age of entry to primary school was lowered to age 6, although older children continued to enroll in grade 1. Prior to entering grade 1, children may attend kindergarten for two years. Following primary school, students may enter either general secondary (four years) or technical secondary school (three years) or teacher training (two or three years). After completing secondary school at around age 18, all students are obligated to undergo six months of military training and nine months of national service as elementary-school teachers (grades 1-4). Upon completing this period of service, some enroll in the University of

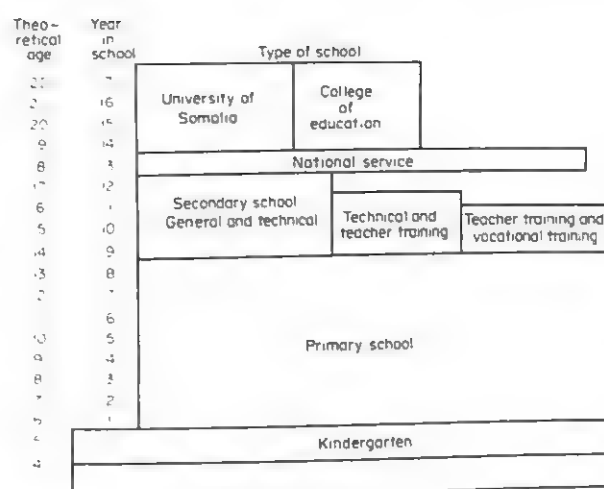


Figure 1
Structure of the educational system 1980^a

a Adapted from Gaal (1982)

Somalia, where they specialize in different fields, while others train as teachers at the college of education or else directly enter the job market. In 1981, some secondary-school graduates were admitted to nursing institutions, and others were to train in veterinary science and telecommunications.

Figure 1 presents in graphic form Somalia's educational structure as of 1981. Students' age designations in the figure can be considered "theoretical" since there are many older students enrolled at each school level.

3. Major Problems

The major problem for the coming years will be to enroll as many students as possible in the primary and secondary schools, and in particular to increase enrollment in technical schools so as to meet the country's personnel needs. Given the influx of refugees from neighboring Ogaden and the prolonged draught that Somalia has suffered, these goals may be difficult to accomplish, for they require a funding base that the nation may be unable to provide.

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Table 1
Educational establishments, teachers, and students, 1981-82^a

Education level and type	Number of establishments	Number of teachers	Number of students
Primary	791	4,553	174,083
Intermediate	634	3,712	9,710
Secondary	51	1,350	33,212
Teacher training	1	14	1,650
Vocational	25	535	7,624

a Source: Europa 1986

South Africa

E. J. King

Before beginning an account of education in South Africa it is important to define the boundaries of the Republic. The obvious reason is that since the Bantu Authorities Act of 1951 and the Bantu Self-government Act of 1959 the Republic has been engaged in redrawing its boundaries and responsibilities in ways which other countries do not recognize. Therefore statistics of population and education vary according to the continuing redefinition of the South African state itself. From time to time the terminology for ethnic and cultural groups (and for the departments dealing with them) also alters correspondingly.

1. The Political Framework

In 1980-81 the official yearbook of the Republic of South Africa defined its boundaries as excluding not only the encircled Kingdom of Lesotho and the adjacent Kingdom of Swaziland (as the outside world agrees) but also three "independent black republics" and seven other territories (called "national states") which between them contain 54 percent of all black people—the great majority in South Africa. The three "republics" (Transkei, Bophuthatswana, and Venda) and the seven black "national states" created under 1975 proposals were all integral parts of the Republic of South Africa at the time of its inception in 1961. In 1981, Ciskei was added to the list of "independent republics". In 1983 the "black states" said to have attained self-government were listed as Bophuthatswana, Ciskei, Gazankulu, KwaZulu, Lebowa, Qwaqwa, Transkei, Venda, KaNgwane, and KwaNdebele. The four republics are sometimes referred to as "sovereign nations". The six "national states" are said to be self-governing; yet in 1982 two areas of KwaZulu were ceded to Swaziland by the South African government, while the administrative machinery for each of the "national states" is circumscribed by legislation in the Republic of South Africa, by "realistic development programmes" inseparable from economic planning for the whole region, and by educational and social limitations.

This redrawing of boundaries is said to be based on ethnic and linguistic grounds, but it has important repercussions on government, welfare, economic prospects, and educational opportunity. The most important consequence, however, is political—in redefining citizenship of the Republic of South Africa and such matters as rights of residence and educational access. Over the years there have been zoning and transfer of considerable populations to designated areas; but the Constitution Acts for the several black "national states" in effect insist that every black person is a citizen of "his or her" state. There they are entitled to exercise their political rights (including the vote). Though not legally aliens in the Republic of South Africa, they are not

citizens there. Ultimately, the aim is "a mosaic of peoples, each with a separate national identity. They will be politically independent but economically interdependent".

When Ciskei became "independent" in 1981, that territory had a resident population of about 660,000; but in addition some 730,000 Ciskeians were living in "black spots" in white-designated areas of the Republic of South Africa. All these people promptly lost entitlement to be considered South African, and could be relocated in the Ciskei which—with 126 residents per square kilometre—was already one of the most densely populated and poorest territories in South Africa, with only 2 percent of its area capable of irrigation.

The "independent republics" are no longer counted in official statistics, but the "national states" usually are. In 1980, the Republic of South Africa had a surface area of 1,134,100 square kilometres without Transkei, Bophuthatswana, and Venda—equivalent to the combined areas of Belgium, France, the Federal Republic of Germany, Italy, and the Netherlands. Most of its territory is subtropical and the rest Mediterranean in climate. Before the development of the black "homelands", some 15 percent of the land was in African hands, usually being the least fertile (though much of the territory is short of rain). The new independent republics and national states were carved out of this small proportion. The other 85 percent is mostly in white ownership.

2. Population

The total South African population in 1970 numbered approximately 22 million. In 1977 (after the excision of the black "republics") it numbered 23.3 million. Latest projections of the Department of Statistics in Pretoria put the total population at 47 million in the year 2000 and 72 million in 2020 (South Africa 1981). At the present rate the total will double in less than 30 years. If the black "republics" are included, the total 1980 population was 23,771,970 of which 18.7 percent were whites, 10.7 percent were coloureds (of mixed white and black descent), 3.3 percent were Asians, and 67.2 percent were blacks (Human Science Research Council 1981). Whereas the annual increase of whites was 1 percent in 1978, that of coloureds and Asians was 2.3 percent, while the number of blacks (excluding those who are "foreign born", i.e., temporary workers) increased by 2.9 percent over the country as a whole. However, during the 1970-80 period the "national states" had an average population increase of 65.8 percent for the decade (Human Sciences Research Council 1981). Thus, the great majority of children in South Africa are in the black "homelands", and the average

age of the black population everywhere is lower than that of the other ethnic groups. Of the population of 72 million expected in the year 2020, it is officially estimated that 55 million will be black (South Africa 1981). These demographic calculations obviously have a direct bearing on education.

The population is very unevenly distributed. Throughout this century there has been a townward migration of white farmers; but rapid industrialization during and after the Second World War brought the urbanized proportion of whites up to 86.8 percent by 1970, Asians to 86.7 percent, and coloureds to 74.1 percent. In the same year, the proportion of blacks in "white urban areas" was 35 percent and would have been much higher but for control measures and the redrawing of boundaries (South Africa 1981). In any case, the establishment of segregated townships for each nonwhite population group at varying distances from the towns and cities where nonwhite adults work in the white economy means that great numbers of children attend school there. For example, Soweto (about 15 kilometres from Johannesburg) is estimated to have above one million inhabitants. No precise count is kept, either for the total or for school-catchment areas. Whites are not allowed to enter the townships without permission; nor are nonwhite people allowed to stay in white urban areas overnight (even as domestics) without special permission, and their movement is controlled by the issuing of passes which must always be carried.

Of the total urban population, approximately 80 percent are found in four large concentrations: the Pretoria-Johannesburg region, the Durban-Pietermaritzburg area, the Cape Peninsula, and around Port Elizabeth. These constitute only 4 percent of the whole territory. Smaller urban concentrations elsewhere are growing fast. There is an attempt to establish cities and industries in the black "homelands"; in the 1970 census about 80 percent of the nearly 4.5 million blacks living in white urban areas were thought to have come from areas since designated as "black states", to which most of them are eventually expected to return (South Africa 1981). It is anticipated that approximately 72 percent of the black population will be in "national states" by the year 2000. At present, about 46.5 percent of the total black population live in them (South Africa 1981). In addition to the group just considered, there were 490,000 foreign migrant workers from neighbouring black states and a further 600,000 black males on short contracts (usually 6-12 months). White immigrants into South Africa average about 40,000 a year, and South African emigrants about 10,000 annually. A high proportion of the latter are well-educated and professionally skilled.

Urbanization is of course linked with industrialization, which now accounts for more than 70 percent of the gross national product. Consequently, the South African economy is moving quickly from reliance on its rich agriculture and other primary products, or even such valuable resources as gold, diamonds, and

uranium, towards a fully industrialized or even a post-industrial condition. Thus, industry and society reflect the whole gamut from preindustrial to hyper-urban (with the expectations of a "communications society"), the latter being amply displayed in prosperous suburbs and commercial networks. The educational implications of this shift are obvious.

Although ever-higher degrees of competence and adaptability are clearly called for, the occupational distribution in South Africa is still that of a less-developed country. Sadie (1978) gives the following figures for male workers of all races: executives and decision makers 3.4 percent; technicians and highly skilled 8.2 percent; less skilled 33.9 percent; and unskilled, unemployed, etc. 55.0 percent approximately. Hence there must be either substantial importation of ready-made professionals and craftsmen (as in the past) or home production. For a long time, leading industrialists and business people have been advocating liberalization of social and educational laws so as to man the changing economy adequately. Such economic considerations have, during the past decade, gradually worn down some of the resistance to educational and social advance. Furthermore, since 90 percent of South African industry is concentrated in the four metropolitan areas, and since the population in the designated black areas is increasing by over 100,000 a year, while the industrial deployment to those areas has been described as a "dismal failure", it seems certain that the economy's need for middle-range and service personnel will have to be met from the nonwhite population—indeed, from the blacks in very large measure.

It was partly with this realization that in June 1980, the government commissioned the Human Sciences Research Council to investigate the provision of education in South Africa, and the report (Human Sciences Research Council 1981) made massive and radical recommendations which are referred to below. Although the government's *Interim Memorandum* of October 1981 rejected the political and social implications of the de Lange Report (as it is often called), it is significant that it recognized the need to ensure "that education of equal quality is achieved for all population groups . . ." but "with due regard to the diversity of peoples in South Africa" and with the preservation of *apartheid*.

3. Languages and Cultures

Conquerors and technologically advanced settlers in many parts of the world have established their own supremacy by such means as colour bars and helotry. From the first formal settlement around Van Riebeeck's fort and hospital at Table Bay in 1657, Dutch-speaking and English-speaking settlers in South Africa made use of both. But the *apartheid* formally established after the Eiselin Report on Native Education in 1951 (though implicit in all the policies of the Malan government after 1948) is more complex and deeper rooted. There has

never been segregation, as the existence of the entire coloured population bears witness. The occupational distribution given above, the vast commuting of blacks and coloureds to industries and domestic service, and even to middle-range occupations, every day, not to mention the generally low cost of luxurious living for whites—all show the economy's essential dependence on the perpetual participation of nonwhite workers. Apart from all questions of social justice and political prudence, the basic question today is: participation at what level and after what degree of education and training? A social and cultural corollary for many (perhaps most) South Africans is: and with what further degree of interaction?

Undoubtedly there is much to justify the statement that policies towards nonwhites are derived from the desire for a constant supply of tractable cheap labour (Collins and Christie 1982), readily available from "outside South Africa" and promptly distinguishable by colour. On the other hand, a kind of cultural paranoia underpins and pervades all perceptions and policies relating to "national integrity" and a South African "mission", especially as expressed in Afrikanerdom. For a splendid interpretation of this complex phenomenon readers are referred to *Education in South Africa* (1977) by the humane and scholarly Afrikaner Dr E. G. Malherbe, especially Parts I and IV, but some account must be given here.

The Afrikaners and their language, Afrikaans (an amalgam of popular Dutch with French, German, and some African and Malay elements), are declared to be "indigenous to South Africa" (South Africa 1981)—already isolated from "completely different" conditions in Europe. The 60 percent of white south Africans who speak Afrikaans (which became an official language only in 1914) believe themselves to be in a unique cultural position. Their own "separateness" and introspection are compounded by unhappy memories of British annexation, of their own separatist Boer republics, of harsh settlement conditions for the Voortrekkers (pioneers) in territories often devastated by intertribal African wars and incursions, and of the Anglo-Boer War (1899–1902) whose scorched-earth policy and concentration camps were followed by the impoverishment of many Afrikaners throughout the 1920s. Triumphant in the 1948 elections, Afrikanerdom, nevertheless, continues to display its "laager mentality" in monuments, rituals, the worship and sermons of the branches of the Dutch Reformed Church, the Voortrekker youth movement's constant preparedness for "emergencies", and above all in the all-pervading power of the secret society Broederbond (Band of Brothers) (Malherbe 1977). To perpetuate cultural purity there was no television service until 1976; but now it is universal and of excellent technical quality, though its news service is parochially trivialized and, in its comments, reflects official views. Afrikaans newspapers, cultural clubs, artistic productions, and of course separate Afrikaans schools and universities reinforce the message—though

there is liberal Afrikaner opposition to everything now implied by *apartheid*. Even English-language schools and curricula are affected by present policies. All white South Africans must learn both languages. Most Indians speak English; most coloured people, Afrikaans. It was the attempt to impose instruction in Afrikaans instead of English that finally triggered off the pupils' revolt in Soweto in 1976.

It should not be supposed that English-speakers (a little less than 40 percent of the whites) are all opposed to *apartheid* in any of its forms—otherwise the National Party would not have enjoyed a crushing majority for 30 years on a white suffrage, even allowing for convenient boundary readjustments. (At the time of writing, 1982, the National Party had 133 seats out of 165 in the House of Assembly and 40 out of 51 in the Senate.) On the other hand, opposition to many *apartheid* policies and repercussions is marked and increasing in English-speaking circles (not least in universities and newspapers, some of which the government tried to buy out in 1978 with public funds). Through the English language and its access to world opinion, to commerce, and rapidly changing technology, many speakers of both English and Afrikaans have come to avow that in principle "apartheid as we know it is dead" (Koornhof 1978), but in practice it is constantly reinforced by large-scale evictions, compulsory purchase of properties, resolute separation of schools (with vastly different resources), and above all by the artificial establishment of black states and republics (for example, Bophuthatswana is an inland archipelago of disjointed areas. From a hill park near Bloemfontein, one isolated section can be partly seen; yet it is cut off politically from that city's hospitals, education, and other services). The 1981 *Interim Memorandum* replying to the de Lange Report made it quite clear that the separate-schools policy, with separate controls, would continue.

Indeed, though statespeople, industrialists, academics, and editors speak out in humanitarian or pragmatic terms, it is difficult and sometimes dangerous for journalists and charitable organizations to attempt or advocate mitigation of the harshness of *apartheid*. Societies, journals, and activities are proscribed from time to time, and individuals are "banned" from activity or actually isolated from all but limited contacts (King 1979). Thus protest by leading South Africans is tolerated—and sometimes strikingly outspoken—while amelioration and indeed awareness at lower levels are vigilantly contained.

The maintenance of separate government departments for Asians and coloureds (notably for education and more recently for consultation) was in part designed to prevent nonwhite South Africans from making common cause. Moreover, since most Asians live and work around Durban, where they have penetrated much of the retailing business and many technician levels, and a majority of coloureds are in Cape province, it was thought likely that improvements for and concessions to these groups would win them over. Indeed, a few of

them can be heard defending the present system—including an Indian member of the de Lange commission—but during the late 1970s and later the vigorous prosecution of *apartheid* policies has made many coloureds describe themselves too as “blacks” socially and politically, though their colour and features may resemble those of some Europeans. Indeed, it is impressive that opposition to *apartheid* was implied throughout the de Lange Report, with its insistence on one system under one ministry and its perspective of access to all professions for all races.

4. Structure of the Educational System and its Administration

There are 18 distinct education departments in South Africa. The four provinces (Cape, Natal, Orange Free State, and Transvaal) built up their provision for (white) education between 1839 and 1840; and at the establishment of the Union of South Africa in 1910 they retained control of all primary and secondary education in their territories. A Union Department of Education (later the Department of National Education) took care of higher education on a national basis, and from 1912 gradually assumed control over matters less developed by provincial education departments. In three Education Acts in 1967 the department obtained powers to direct policy for the whole country, with uniform conditions, salaries, and purposes and with the power also to plan syllabi, examinations, and so on “with due regard to the advisability of diversity” (South Africa 1981 p. 616). Teacher training and vocational education are closely controlled in consequence of the 1967 Acts and amendments in 1969 and 1971. Thus, there are four provincial departments for white education and the all-controlling Department of National Education.

Education in the black “national states” and four “independent republics” is controlled by their own 10 respective departments. The South African Department of Education and Training controls the education of all blacks outside these states and republics. Some idea of its growing response to need is given by the increase in its budget from Rand 27 million in 1972–73 to Rand 249.3 million in 1980–81. Since 1978, it has had its own minister. In 1980, the total enrolment of pupils in the black states was just over 2 million, while the Department of Education and Training was responsible for just under 1.5 million. If the “independent” states are included, 1978 enrolments in primary and secondary schools were: whites 952,000, blacks 4,224,000, coloureds 722,000, and Asians 207,000 (Human Sciences Research Council 1981). It was claimed that the enrolled percentage of school-age black children was about 75 percent (South Africa 1981 p. 637). That says nothing about attendance or effectiveness; to make an accurate count of black children would be impossible. In 1975 per capita expenditure on white pupils was

15 times greater than for blacks; there is still a vast difference.

Until a new Education and Training Act took effect in 1980 there was no compulsory education for blacks, though compulsory attendance for six years for the other nonwhite communities was introduced some years before (but was for a much shorter period than average voluntary attendance). The 1980 changes were intended to introduce compulsion gradually in selected areas (at first in Port Elizabeth) from the age of six; but, because of persistent boycotting of secondary education by pupils and parents who considered it inferior, little progress has been made. In any case, only geographically strategic districts have been chosen for the experiment. New schools and classrooms are “of equal standard” materially, and free books are to be supplied. But the pupil–teacher ratio for black children was 48:1 in 1980 (58:1 in 1968), in contrast to 20:1 for white. In the relatively liberal Cape Province, black teachers with a degree constitute 2.5 percent of the total and those with 10 years of schooling followed by a teaching certificate, 16 percent; nearly all the others have had only six years of schooling and have no certificate. By contrast, more than 34 percent of white teachers are graduates, and 65 percent have had 10 years of schooling and a certificate. The number of teachers needed to reduce class size to 30 for black children in the Republic of South Africa by the year 2000 will mean an increase from 95,501 in 1980 to 239,943 (Human Sciences Research Council 1981). Some less-favoured areas fare much worse, and double shifts are common. 1977 figures showed only a 42 percent progression of black children from grade 1 to standard 2 (age 10), as against 92.3 for whites, 88.2 for Asians, and 52.3 for coloureds (Human Sciences Research Council 1981). Black and coloured children are still grossly under-represented in secondary and higher education. Basic education (to about age 12) is free; further education is not, and parental free choice often means that children continuing to attend will follow vocational courses, while others drop out. In some “national states” the shortage of resources and poor teaching make matters worse; but some (e.g., KwaZulu) have done well.

The education of the coloured community, which had been a provincial responsibility from 1910 onwards, was transferred to the Department of Coloured Affairs in 1964 and to the Administration of Coloured Affairs in 1969. Compulsory schooling from 7 to 16 reached the 16-year-olds by 1980. Courses and syllabi are identical with those of the education departments of the 4 provinces; but in the senior-secondary phase (standards 8 to 10) much more attention than in white schools is paid to technically or vocationally oriented preparation. (White schools are predominantly “academic” in orientation at this level.) Technical education proper is provided at senior-secondary and postsecondary levels at strategic points.

Asian education is centrally controlled through the Department of Indian Affairs. It is offered officially in

the same phases as for white pupils, but again with noteworthy attention to commercial, technical, and similar studies at the senior phase.

Churches and other voluntary bodies provide much schooling for white and coloured pupils (separately). Private schools enrol some 6 percent of all white pupils. Such providers were liberal in admitting black pupils until *apartheid* regulations were severely tightened.

Regulations effective from 1972 have established "differentiated education" nationally in four school phases, each of 3 years: junior primary; senior primary; junior secondary; senior secondary. Primary schools operate by "class teaching", without differentiated syllabi. The first secondary year is also provided in the primary school. In the junior-secondary phase most subjects are compulsory, without differentiated syllabi, though different presentation may be used for pupils needing it. Standard 5, the first of the junior-secondary phase and offered in the primary school, is a transitional year orienting choices towards more or less academic or practically applied secondary schools. The grammar-school type of the secondary school is the ordinary expectation. In the senior-secondary phases there are eight main study courses; but provincial requirements and a Joint Matriculation Board circumscribe variety for most pupils. The de Lange committee in 1981 criticized the heavy bias towards arts subjects and the neglect of science, technology, and commerce. It also criticized lack of developmental strategy, research, and services.

For admission to a degree course, Matriculation requirements are specified; but criteria are not exacting by international comparison. Candidates with a Senior Certificate (or Matriculation) are admitted to diploma courses at universities or to diploma and certificate courses in technikons, primary teachers' training colleges, and other tertiary institutions.

Of the 10 residential universities for whites, five conduct lectures in Afrikaans, four in English and one in both languages. The University of South Africa (UNISA), situated in Pretoria, teaches through correspondence, and serves all population groups. University education began in Cape Town in 1829. The white universities (especially those using English) gradually admitted an increasing number of nonwhites until the government's *apartheid* regulations restricted such admission to courses not provided in segregated universities for the other communities. There are now eight university-level centres for nonwhites including two in "independent states" and the new University of Vista (Pretoria) mainly for part-time studies. The University of the Western Cape was chartered in 1970 for coloured students; for Asians there is the University of Durban-Westville (1961). There has also been much recent building or extension of technical colleges, technikons, and teacher-training establishments for nonwhites, often with impressive premises; but very much of this provision is disdained by the population for which it was intended, on the ground that for reasons of

segregation, staffing, and contacts it is necessarily inferior. Some campuses are half-empty; others are plagued by disturbances. A total of 6,848 black students were at university in 1979; some 5,000 coloured; almost 6,000 Indians; and 118,000 whites. (These numbers do not include correspondence enrolments at UNISA.)

5. The Future

The de Lange Report (Human Sciences Research Council 1981) proclaimed 10 basic principles (later accepted *in essence* by the government's *Interim Memorandum* but repudiated soon afterwards by leading government spokespeople, and never acted upon). The first was: "Equal opportunities for education, including equal standards in education, for every inhabitant, irrespective of race, colour, creed, or sex, shall be the purposeful endeavour of the State." Elaboration throughout the text pointed to catastrophic inequalities in provision, access, participation, teaching, resources of every kind, and back-up services. It also specified practical steps to be taken: the establishment of a three-tier structure based upon a single ministry and department served by a South African Council for Education to provide a broad national policy (supported by regional and district boards for the development of variety and choice); the establishment of nine years' compulsory education for all (a minimum of six years' school with three years' training as appropriate); national development of a modern curriculum allowing for participant modification; the coordination of formal schooling with informal education and community development. It called for more and better teachers (at least 24,981 white, 22,708 coloured, 6,964 Asian, and 245,405 black by the year 2020). The inseparability of this development from improvements in adult education, educational technology, extension services, and informal education and training was clearly recognized. Much more participation of the public in future planning was demanded.

Financial reorganization (centrally and locally) was considered in the report. However in 1978 the then Minister for National Education (and now Minister for Cooperation and Development), Dr. P. G. J. Koornhof, estimated the cost of equalization would multiply educational expenditure by four or five. Others have estimated that a general equalization of wages would at least double the cost of living for white South Africans. In 1983 it was estimated that to achieve parity in schooling by 1990 would require about 40 percent of total government expenditure (without allowing for inflation). Another estimate was that white parents would have to contribute between 5 and 20 percent more for the education of their own children—previously free. As part of the process of "evening-up" and also providing for technical education, there has already been financial support from industry and commerce on a scale hitherto unknown.

However, no improvement in schools and educational services could succeed for long without revolutionary improvement in housing conditions and opportunities for family life. Unauthorized shacks and shanty towns in "white areas" may be demolished; but Soweto and other official "townships" with metal huts, brick cabins, stand-pipe water and a dearth or absence of domestic electricity and other basic services (together with very poor facilities for community life) are not conducive to "equal opportunities in education". Nor is a system which leaves children behind while fathers and most other adults have to work far from home and often in precarious conditions (when they can find employment).

Still, as Professor J. McG. Niven (1981) pointed out, "the investigation carried out in 1980 and 1981 is the first time in the history of education in the RSA that so comprehensive an approach to the education of all people in this country has been carried out". It proclaims a manifesto around which many will rally.

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Soviet Union

M. P. Kashin

The system of public education in the Soviet Union includes such establishments for child rearing and education as preschool institutions (kindergartens and nursery schools), schools providing general education, vocational schools, specialized secondary schools, and higher education institutions.

The Union of Soviet Socialist Republics, a state formed as a result of the victory of the October Revolution (1917) against the Russian Empire, consists of 15 sovereign union republics with equal rights. The Soviet Union is a multinational state, comprising more than 100 ethnic groups and nationalities with different languages, cultures, and modes of life, but closely linked by common historical destiny. In 1986, the population was nearly 279 million. The country covers an area of 22.4 million square kilometres (8.6 million square miles). Its capital is the city of Moscow.

The development of schooling has a long history. In the fourth and fifth centuries AD, the first spiritual schools were established in Georgia, and in the twelfth century, three higher schools—academies—were estab-

lished there. In the fifth century, the Armenian script was devised and schools were organized in Armenia. The first schools of Kiev Russia were established in churches and monasteries in the tenth and eleventh centuries.

The appearance of the Slavonic Cyrillic alphabet in the ninth century was very important for the dissemination of literacy. The spread of printing promoted the development of education, and the first alphabet book was printed by Ivan Fedorov in 1574. In the sixteenth century, a network of schools developed in the centralized Russian state. The first of the secular state schools to appear was the School of Mathematical and Navigational Sciences, which was opened in 1701 in Moscow. In 1724, the Russian Academy of Sciences was founded in Petersburg. In 1775, Moscow University was created.

At the end of the eighteenth century, the state system of public education was formed. On the basis of the "Preliminary rules of public education" (1803) and the "Regulations of educational institutions" (1804), this

system came to include parochial schools, district schools, secondary schools, and universities. In 1802, the Ministry of Public Education was created. The system of school education before the October Revolution of 1917 was very complicated. Primary schools comprised three to four years of education and were the responsibility of different departments. Secondary education was given in male and female secondary, middle, commercial, and other schools. Entry to university was possible only after graduation from a male secondary school. Transition from one type of school to another was virtually impossible because syllabi were uncoordinated. Many children from impoverished backgrounds had no chance of receiving primary education, let alone secondary education.

Immediately following the victory of the revolution in 1917, a radical reform of the organization and content of education both for the rising generation and for workers was undertaken. The heritage of widespread illiteracy had to be dealt with. Schools, technical schools, universities, libraries, and other educational and cultural institutions were placed at the disposal of the workers irrespective of their nationality, social status, sex, or occupation. A nine-year school, divided into two stages of five plus four years, was created. These schools were free and coeducational, with instruction in the native language of the region. It enrolled 8- to 17-year-old children. The content of education too was radically changed.

In 1919, to prepare workers and farmers for entrance to higher education institutions, a special type of learning institution was established—the labour faculty (or *rabfac*). By the end of the 1930s, the need for them had passed and they were abolished.

Great attention was paid to the cultural revival of formerly oppressed and underdeveloped peoples. The creation of a script for about 40 groups and nationalities of the Soviet Union formerly without a written language (the Kirghiz, Bashkirs, Buryats, the peoples of Dagestan and the extreme north, etc.), together with the writing of their literatures, was of great importance in the development of public education in native languages after the revolution.

The system of education of the Soviet Union, begun in the 1920s, was developed and improved in step with the economic and cultural growth of the country. It reflected the social progress that took place in the country, meeting the new needs of the state and its citizens. Over time changes were made in types of school and their structure, in the content of education, and in the interrelations of general, polytechnic, and professional education. In spite of these changes, the principle bases of the system of education remained the same: all education is controlled by the state, and private schools or other educational institutions are not allowed; education is characterized by equality and continuity between all types of educational institutions; education is universal and free; it is secular and is conducted in the native tongues, with freedom of choice

in the language of learning; and education combines school learning with socially useful labour appropriate to the pupil's age.

1. Goals of Education

In 1985, the Supreme Council of the USSR approved "The bases of the legislation of the Union of SSR and union republics on public education." The new law determined the aims and tasks of public education, secured the right of citizens of the Soviet Union to receive education, and determined the competence of the Soviet state and the union republics in the field of public education. Soviet citizens were given the right to choose their profession, occupation, and job according to their vocation, abilities, professional training, and education, and in consideration of the country's social needs.

The aim of public education in the Soviet Union is the preparation of highly educated, fully developed, physically healthy and active builders of the communist society, who are brought up on the ideas of Marxism-Leninism with regard to Soviet laws and socialist orders; who are capable of successful work in the different fields of economic and social-cultural construction; who take an active part in social and state activities; and who are ready to defend the socialist motherland wholeheartedly, to guard and increase its material and spiritual wealth, and to cherish and protect the environment.

2. Structure and Size of the Education Effort

Figure 1 presents the structure of the educational system.

In 1914 there were 275 preschool institutions in Russia. After 1917, preschool education was withdrawn from private persons and philanthropic institutions and given to the state. The main type of preschool institution is the kindergarten, which enrolls children from 3 to 7 years of age. There are nursery schools for children aged from 2 months to 3 years. Activities include games, study, entertainment, elementary work—all aspects of the physical, moral, aesthetic, and academic education of the child. The state kindergarten syllabus specifies what children are to learn about the environment, speech, arithmetic, drawing, modelling, sewing, singing, and dancing. Since the end of the 1970s, reading and writing have also formed part of the syllabus. The language used is the respective regional language. One of the main tasks of kindergarten is to care for children's health and physical development, which is ensured by an appropriate schedule, a planned diet, child care, physical exercises, and medical supervision.

Children attend kindergarten for 9 to 12 hours a day. If the parents' work involves travel or shift work, there are kindergarten boarding houses where children stay all week and go home at weekends. In 1959, combined

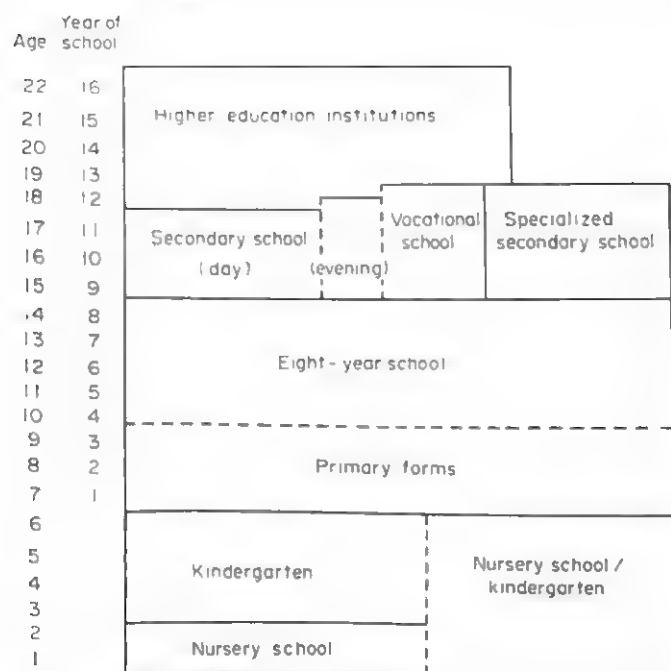


Figure 1
Structure of the educational system

nursery schools–kindergartens were introduced for children aged from 2 months to 7 years.

The number of kindergartens grew with the development of industry and agriculture and the greater involvement of women in industrial work. Industrial establishments, state farms (*sovkhozes*), and collective farms (*kolkhozes*) are actively involved in the creation of kindergartens. In 1984, there were 134,400 permanent preschool institutions in the Soviet Union. They enrolled 15.5 million children—11.6 million children were enrolled by 71,000 institutions in cities and towns and 3.9 million children were enrolled by 63,400 institutions in rural areas. Besides permanent preschool institutions, seasonal preschool institutions are organized in summer.

According to the census of 1911, rural primary schools enrolled only 23.8 percent of school-age children. Most children acquired only elementary literacy—the ability to read but not always to write. Following 1917, there was a considerable increase in the numbers of schools and pupils. In 1930, the government introduced universal compulsory primary education for 8- to 10-year-old children. This act also introduced universal seven-year compulsory education in cities and labour towns. School buildings were constructed everywhere, many thousands of teachers were trained, funds for materials were created to help needy children, and explanatory work among parents was conducted (especially in non-Russian regions). By 1934, universal primary education was a reality. In the 1933–37 period, compulsory seven-year education was successfully accomplished in cities and labour towns, and considerable steps in developing

complete secondary education were taken. Progress in the full implementation of secondary education was impeded by the Second World War. By 1949, universal seven-year education had been introduced everywhere, and in 1959–62 universal compulsory eight-year education for children from 7 to 15 years of age replaced the seven-year scheme.

In 1979–80, 99.3 percent of eight-year-school graduates continued their studies in day general secondary schools or in secondary vocational or specialized schools (technicums and colleges) providing general secondary education. The ratio of students who graduated from different types of secondary institution to the number studying in form 1 in the corresponding period rose from 76.3 percent in 1975 to 97 percent in 1980. Thus, nearly all children receive a complete secondary education.

Table 1 presents enrolment data for 1914, 1940, 1970, and 1984. In 1914, there were 124,000 schools, mainly primary; 9.7 million children studied in them. In 1940, there were 199,000 schools, with 36 million pupils. In 1984, this had decreased to 130,000 schools because of the rationalization of the school network: the number of primary schools is diminishing while the number of eight-year schools and in particular secondary schools is increasing. They enrolled 41 million children and youth.

Labour education is conducted throughout the 10 years of eight-year and secondary schooling. In forms 1 to 3, children acquire work skills with paper, cardboard and other materials, study needlework, and grow flowers and plants. Lessons in forms 4 to 8 are conducted in woodwork and metal workshops, in domestic-science rooms, and in the educational/experimental agriculture plots belonging to the schools. Pupil participation in socially useful work consists of care of public gardens and avenues in cities, and participation in the work of student brigades on arable and livestock farms in the country. Great attention is paid to vocational training in the senior forms of the secondary school, where four lessons a week are devoted to it. Many schools provide one day a week for studies in industrial centres created specially for senior pupils. They receive training from workers from factories, construction sites, and the transport service. Form 9 and 10 pupils in the rural areas study agricultural mechanization, agrotechnology, and animal care and are prepared for work in *kolkhozes* and *sovkhozes*.

After form 8, some pupils also work in industry or agriculture, but all of them must receive secondary education. For this purpose evening schools provide courses for the continuation of general secondary education. In 1984, there were 11,130 such schools with an enrolment of 3.7 million students. The syllabus is the same as in the day general secondary schools. Study in these schools comprises 20 hours a week, but it lasts one year more than in the day school. Evening general-secondary-school students have some privileges: one day a week free of work on 50 percent of salary,

Table 1

Enrolments in general education schools in the union republics, 1914-84

	Total population, January 1, 1986 (millions)	Numbers of students (millions)			
		1914-15	1940-41	1970-71	1984-85
RSFSR ^a	143.1	5.7	20.6	25.3	17.5
Ukrainian SSR ^b	58.8	2.6	6.8	8.4	6.5
Byelorussian SSR	9.6	0.5	1.7	1.8	1.4
Uzbek SSR	17.9	0.0	1.3	3.3	4.4
Kazakh SSR	15.8	0.1	1.2	3.2	3.0
Georgian SSR	5.2	0.2	0.8	1.0	0.9
Azerbaijan SSR	6.6	0.1	0.7	1.4	1.3
Lithuanian SSR	3.6	0.1	0.4	0.6	0.5
Moldavian SSR	4.1	0.1	0.5	0.8	0.7
Latvian SSR	2.6	0.2	0.3	0.3	0.3
Kirghiz SSR	4.0	0.0	0.3	0.8	0.9
Tadzhik SSR	4.5	0.0	0.3	0.8	1.1
Armenian SSR	3.3	0.0	0.3	0.7	0.6
Turkmen SSR	3.2	0.0	0.3	0.6	0.8
Estonian SSR	1.5	0.1	0.1	0.2	0.2
Total	276.3	9.7	35.6	49.2	40.4

a Russian Soviet Federated Socialist Republic b Soviet Socialist Republic

additional holidays for passing examinations, etc. Day and evening secondary-school graduates must pass final examinations. Successful candidates receive the general education certificate. For excellent achievement and exemplary conduct, students are awarded honour certificates and medals.

Children who have lost one parent or children from families where child care is inadequate may be placed in boarding schools at the request of the parents. These schools have a common timetable, curriculum, and textbooks. The system of children's homes is for orphans and half-orphans, and the state takes complete responsibility for the care of such children.

There are special-education schools for mentally retarded and physically handicapped children. In all union republics, there are primary and secondary schools for partially blind, blind, partially deaf, and deaf children. Mentally retarded children study in eight-year schools, where they gain as much competence as they can in the primary-school curriculum. Great attention is paid to work habits. In 1984, there were 2,600 special schools in the Soviet Union, with 0.5 million children in them. The majority of these children receive complete state maintenance. There are sanatorium-type boarding schools for sick and weak children in all regions. They have common curricula and textbooks.

Parallel to the schools, extramural establishments carry out various types of educational work. In 1983, there were 4,997 Young Pioneer and schoolchildren's palaces and houses, 1,502 young technicians' clubs, 989 young naturalists' clubs, 8,233 children's music, arts, and choreographic schools, 7,426 children's sports schools, 49 children's railways, 8,669 children's libraries,

and 187 children's theatres. Every school has its library. To meet readers' needs, a large amount of fiction, popular science, and other kinds of children's literature is published. Many magazines and newspapers for children and young people are produced in the various languages of the Soviet Union. To strengthen children's health and physical development, pioneer camps are organized in the summer (in cities, countryside, and *kolkhozes* or in school camps). In 1980, 12 million pupils attended them.

Vocational schools prepare skilled workers for different sectors of the national economy. Individual apprenticeships at factories were the form of mass vocational training during the first years of the Soviet state. In 1918-20, factory apprenticeship schools began to appear. They trained millions of young workers. The rapid development of vocational education in the country was regularized in 1940, with the creation of state labour reserves. The system of labour-reserve schools included industrial, railway, building, and mining schools and agricultural mechanization schools. The term of study was from two to four years. In 1958, these schools were transformed into city and rural vocational schools, with term of study ranging from one to three years, depending on profession. Many have evening departments, permitting workers to improve their qualifications without discontinuing work. Technical schools were created in 1966 to train general-secondary-school graduates to become highly qualified workers.

The system of vocational schools is continuously revised according to the needs of the national economy and scientific and technical developments. The list of professions now numbers more than 100. It is systematically revised.

With the transition to universal secondary education, graduates, mainly of the eight-year-schools, have been admitted to vocational schools, in which three- to four-year courses are organized. Young people receive a profession and general secondary education equal to that which their peers receive in an ordinary secondary school. In 1971, there were 615 such schools in the Soviet Union with 180,000 students in them. In 1984, there were 4,800 schools with an enrolment of 2.4 million. Secondary vocational school graduates have a right to enter any higher educational institution in the country irrespective of the profession they have been trained in.

Day-time, evening, and correspondence technical institutions, schools, and colleges train specialists with middle-level qualifications for different sectors of the national economy. Persons from the 14- to 30-year-old age group are admitted to day institutions. Evening and correspondence institutions admit people of all ages. The term of study in day specialized secondary schools after the eight-year school is three to four years, and after secondary school is two to two and a half years. In evening schools, the term of study is one year more.

Specialized secondary schools are accessible to every person who has completed an eight-year or a general secondary school. Education is free of charge and is conducted in the respective native language. Students receive scholarships, and hostels are available for those who live in other towns. In 1984, there were 4,438 specialized secondary schools, with 4,504,000 students.

Higher education is implemented in universities and other institutes (pedagogical, economic, polytechnic, agricultural, theatre, and others). Higher education is accessible to everyone irrespective of sex, race, nationality, social origin, or property status. Arrangements are made in non-Russian republics for higher education to be conducted in the native language. The existence of different forms of education (day, evening, and correspondence courses), of privileges provided by the state for students in higher learning institutions (free education, grants, hostels, additional holidays, a short working day for those who study without discontinuing work, etc.), and of a wide spectrum of courses preparing youths for higher education establishments have all contributed to making higher education accessible for all citizens who have completed secondary education.

A specific set of subjects is selected for every speciality. This involves a combination of educational and practical work resulting in the acquisition of modern scientific knowledge and the mastery of scientific and practical work methods. The programme includes obligatory and optional subjects. Obligatory subjects include those forming the scientific basis of special training. They comprise social-political, general-theoretical, and special cycles. Optional subjects permit students to study special fields of knowledge in depth in order to learn the latest scientific, technological, and artistic achievements. Optional subjects are widely available in universities, where, for instance, more than 100 such

courses exist in the speciality of physics. The main teaching methods in higher education are lectures, seminars, laboratory work, course work, course and laboratory projects, and educational and practical work. Students also participate in scientific circles and societies, and work in public design offices.

Higher education is developing successfully in all union and autonomous republics, each of which has the different types of institution referred to above. Every year about one million students are admitted to higher education. In 1980, 817,300 young specialists graduated from higher education institutions. The preparation of research specialists is carried out mainly in postgraduate courses of scientific research institutes of the Academy of Sciences of the USSR, the Academy of Pedagogical Sciences of the USSR, Academy of Medical Sciences of the USSR, the Academy of Arts, the All-Union Academy of Agricultural Sciences of the USSR, different ministries of the Soviet Union, and postgraduate courses of higher education institutions.

3. Curriculum

The content of education in the Soviet school is determined by the programme schedule and curricula. These are the same for all primary, eight-year, and secondary schools respectively. This continuity guarantees equal content of education in corresponding forms and equal opportunities for the continuation of education, irrespective of where a person has attended secondary school.

The stage of primary education in the eight-year incomplete secondary school was reduced from four to three years in 1972. All subjects are taught, but emphasis is placed on the native language and mathematics. Specialist teachers are used for music, arts, and physical education. Systematic courses in the native language, literature, mathematics, history, and foreign languages are introduced in form 4. Biology and geography are added in form 5, physics in form 6, and chemistry in form 7. There are also lessons in music and singing and art and drawing in the eight-year school. In forms 9 and 10, literature, history, mathematics, physics, chemistry, foreign languages, and economic geography are taught, with astronomy, general biology, and social science added in form 10. Physical education is taught in forms 1 to 10 for two hours each week. Each union republic also adds its own curricula for specific subjects such as Russian as a second language or the history and geography of the region.

Optional courses to enrich students' knowledge, according to their interests and inclinations, have been introduced in forms 7 to 10. More than 100 curricula and teachers' guides have been compiled. Students may choose their own optional courses. Prominent scientists, methods specialists, and experienced teachers are enlisted to write the many textbooks and teachers' guides in these optional subjects. Soviet pedagogues attach great importance to the raising of pupils' cog-

nitive achievement and independence in the process of education. Great attention is paid to the improvement of the lesson and other forms of learning, and to the use of various technical aids in the learning process.

Extracurricular education ranks high in the Soviet system of education. Different circles and societies are organized in schools outside school hours. Some pupils pursue sports, others drawing, modelling, dance, or singing, or technical subjects. Children with a talent for music are taught to play musical instruments. Many intermediate and senior students belong to young naturalists' and young technicians' clubs. Schoolchildren also study more mathematics, physics, chemistry, literature, history, or whatever subject especially interests them.

The rapid development of science, technology, and culture has required a considerable revision of the content of general education. In 1964, the Academy of Sciences and the Academy of Pedagogical Sciences of the USSR created the Programme Commission (a curriculum committee) responsible for defining the content of education. The Programme Commission consisted of prominent scientists, methods specialists, experienced teachers, school heads, and leaders of public education authorities—in all 500 persons. Proposed new curricula were published for wide discussion, and on the basis of suggestions and recommendations from scholars, educators, and parents, the commission finalized the new curriculum. The scientific and theoretical levels in all subjects were raised, and new textbooks were compiled and old textbooks revised. The modernization of the content of general education took a decade, being completed by 1976.

The curriculum in specialized secondary schools has one common set of aims—the completion of general secondary education by those who did not finish secondary school, to give students sound special knowledge and skills, and to provide a broad polytechnic and professional education. Students study three interrelated cycles of subjects—general education, general technical, and special cycles. Different types of practical training are provided. Graduates have the right to enter any higher education institution in the country. They are trained for a large variety of jobs in industry, construction, transport, agriculture, economics, medicine, education, law, etc., but in accordance with the needs of each republic.

4. Teacher Training

Kindergarten teachers are trained in preschool pedagogical schools (colleges); teachers of the primary forms are trained in pedagogical schools and institutes; teachers of forms 4 to 10 are trained in pedagogical institutes and universities. Teachers in arts and physical culture receive education in a relevant specialized institution. The advanced training of teachers, educators, and school principals is conducted in regional (or city) methods courses, or provincial, territorial, or republic advanced-training institutes for teachers. The improvement of teachers' qualifications and the development of their pedagogical creativity is helped by pedagogical and methods magazines which are published in every subject by the *All-Union Teachers' Newspaper* and by teachers' newspapers produced in union republics.

5. Future Plans

In April 1984 the Soviet Communist Party announced a plan to reform the educational system and improve the quality of teaching in primary and secondary schools. In 1986, the gradual transition to starting school at the age of 6 instead of 7 began. Thus general secondary school will increase from 10 to 11 years. The primary stage of the school will include forms 1–4 instead of forms 1–3, the incomplete secondary school forms 5–9 and the complete secondary school forms 5–11. The plan also calls for all children to master the Russian language by the time they leave secondary schools, regardless of their region. Other changes include increasing teacher training from four years to five, encouraging more men to enter teaching, revision of textbooks, and the earlier introduction of practical work and technical subjects into the curriculum.

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Spain

I. Alonso Hinojal

Spain is an old country with a relatively large area (504,000 square kilometers—194,594 square miles) and a low population density (75 inhabitants per square kilometer). Geographically and historically, it forms part of the Continent of Europe, and for centuries has

been linked to America and has been an important part of the Moslem world. Because of its geography and history, Spain became a crossroads for various ethnic groups. With the loss of its colonies, it embarked on a period of contraction, which culminated in the mid-

1900s in an impenetrable isolation. By the end of the 1970s, the political circumstances which had exacerbated this situation had disappeared and Spain had entered a period of modernization and reincorporation into the Western world.

This change of direction with regard to foreign affairs was prompted by internal changes of widely varying kinds. The most obvious are the political changes at the end of the 1970s: the transition from a long dictatorship to a modern democracy; and from a centralized state to one of regional autonomy. It is obvious that this political transition could not have come about if the way had not already been paved by other less visible but more profound changes affecting the values, attitudes, and behavior of the Spanish people.

Schematically, it might be said that Spain developed from being a typically agricultural country up to 1960 to being an industrial one in the 1970s and to being a predominantly tertiary one in the 1980s. The percentage distribution of the active working population is shown in Table 1. Behind these statistics lie great changes in the life of the country, relating, for example, to type of work, standard of living, and life-style. Spain has progressed from being a clearly rural society to being one of the most urban societies. In 1981, 36 percent of the population lived in the capital towns of the provinces. Massive migratory movements are implied, and indeed, from 1960 to 1970, 4.4 million Spaniards over 10 years of age moved to a different municipal area.

The birth rate in Spain has undergone an evolution which both parallels and lags behind that of the countries of central and northern Europe. The parallelism consists in the continuous downward trend of the birth rate throughout the twentieth century, with certain depressions such as those at the time of the crisis of 1930 and of the civil war of 1936–39. The particular characteristics of the Spanish birth rate then became more marked: instead of a rapid descent, there were certain fluctuations, which kept the birth rate at a much higher level than that elsewhere in Europe, with a comparative maximum around 1965. It only began to fall in 1975, and by 1980 the gross birth rate was 15.17 per 1,000.

However, the changes in Spanish society have not been homogeneous. It is possible to refer schematically to approximate dates marking the main stages of the change undergone by Spain in recent decades. In the 1950s, Spain recovered from the effects of the civil

war and the international blockade and initiated its economic growth. In the 1960s, the great economic transformation took place, together with large-scale interior and exterior migration, industrialization, and a rise in the standard of living. The 1970s was the decade of economic crisis and political change. The crisis was "concealed" until the dictatorship came to an end in 1975, so that its effects have been delayed and more serious. In the 1980s, Spain is faced with a series of great challenges, mainly the economic crisis and the difficulties of consolidating democracy in difficult circumstances. The establishment of a state formed by autonomies and the entry into, and integration with, the countries and organizations of the West are also serious challenges.

1. General Structure and Size of the Educational System

The educational system cannot be interpreted without regard to the corresponding social context and its changes. That is why it is advisable to refer to the stages of social change mentioned above in order to differentiate the structure and the recent changes in the educational system. It then becomes obvious that educational change is lagging behind social change.

In 1970, the General Education Act (LGE) was passed. This Act, whose only predecessor was a century earlier, established the present educational system as a unitarian, global, and, theoretically, flexible (i.e., modern) system, such as is indispensable for the new society in Spain, and especially for the Spanish economy. It was preceded, and accompanied, by a large-scale public campaign, and international legal advice was given. Its aim was to overcome the gap existing between education in Spain and in the advanced countries.

The Education Act allowed a decade for the full implementation of the reforms; however, intense opposition created difficulties and prevented many, in particular, the most innovative, reforms from being carried out. This opposition resulted in a series of regulations which were, to a greater or lesser extent, contrary to the spirit of the Act, and which crystallized into what came to be known as the educational counterreform. In the mid-1970s, there was also an attempt at an overall assessment of the reform, the results of which, however, were never made known. When the political changes began in 1975, education was a high priority in the debate among political groups and civic movements. Great importance was given to education when the texts of the Constitution and Autonomous Acts were drawn up, and controversy surrounded the first educational acts of the democratic period (i.e., the Educational Centres and the University Autonomy Acts).

Although 1980 was the anticipated date for the final implementation of the 1970 reform, in reality it was the date marking the commencement of a series of reforms made necessary by the new political and social situation.

Table 1
Percentage distribution of the economically active population 1950–80

Sector	1950	1960	1970	1980
Agriculture	51	43	26	18
Industry	23	28	36	35
Services	26	29	38	47

The structure of the Spanish educational system is fundamentally defined by educational levels, grades of vocational training, and by certain types of teaching. The levels of education are: preprimary education, primary education, secondary education, and university education.

The basic aim of preprimary education is the development of the child's personality; it is divided into two stages—for 2- and 3-year-olds and for 4- and 5-year-olds.

Primary education is comprehensive and equal for all. By law, it is obligatory and free but the latter has not yet been fully achieved. The 1970 General Education Act decreed two stages for primary education: one from 6 to 10 years of age consisting of general education, and a second from 11 to 13 years of age consisting of specialized education. One of the recent reforms has subdivided primary education into three cycles or curriculum units: an initial cycle (6 to 7 years of age), an intermediate cycle (8 to 10 years of age), and a higher cycle (11 to 13 years of age). This reform aims at achieving greater flexibility in the organization, assessment, and advancement of pupils and improving the teacher-pupil relationship.

Secondary education is open to anyone who has finished primary education and obtained a General Certificate of Education; the remainder obtain a school-leaving certificate and must enter a school of vocational training. Secondary education consists of three years, during which there is intense preparation for university studies; the student will begin the latter after taking a year's course of university-orientation studies. Since 1975, it has also been necessary to pass a university entrance test in order to enter university. On finishing secondary education, a student may, alternatively, take up vocational training.

Long-cycle university education takes place in the university faculties and technical schools. There are also polytechnics for technical, short-cycle courses. In large towns having no universities, university colleges were

established in accordance with the 1970 Education Act, where the first years of university education (first cycle) could be studied in a decentralized system.

Vocational training grades are closely linked to the pre-1970 levels of education and, in theory, constitute bridges between the general educational system and the labor environment. However, in reality, they have pointed only in one direction—towards work.

Vocational training consists of three grades: first grade, which is obligatory for those who have successfully finished primary education and do not wish or are not able to go on to secondary education (people may not begin work until the age of 16); second grade, which is for those who have completed secondary education or the first grade of vocational training and who have also taken some complementary courses, and third grade, university level, which has not yet been established.

The 1970 Education Act also established permanent adult education, both for those who wish to study at the different levels of general education and for those who wish to improve their professional skills. Both types of course are scarcely developed in practice. There has been an incipient and erratic development of special education, both for handicapped children and for those with a very high intelligence quotient.

Tables 2 and 3 present the evolution of enrollment in the educational system. There was an enormous expansion in enrollment in the years just before and after the 1970 reform. During the first years of the 1970s, compulsory schooling was established and the expansion of pre- and post-compulsory education began. The number of secondary and university students was approximately trebled; the numbers in preprimary education increased by half, and those in primary education by a quarter.

This expansion has not been even among all social classes and regions, or even in different areas of the educational system itself. The Spanish system comprises both private and public schools. Part of the demand for

Table 2
Evolution of the number of pupils by level from 1940-50 to 1979-80^a

Years	Preprimary and primary	Secondary and vocational training	University	
			Poly-technic	Faculties and colleges of science and technology
1949-50	2,780,145	214,844	84,611	53,557
1954-55	3,373,856	292,503	90,197	62,239
1959-60	3,370,395	522,044	98,769	76,362
1964-65	3,762,729	863,888	139,712	108,853
1969-70	4,555,361	1,522,075 ^b	131,163	184,261
1974-75	6,253,705	996,928 ^b	133,367	311,757
1979-80	6,806,442	1,570,907 ^b	178,066	459,442

a Source: *Ministerio de Educación y Ciencia* 1981, except for 1970-80 (unpublished data from the statistics department of the *Ministerio de Educación y Ciencia*). b The irregularities in the series are mainly due to reorganization and changes in the level of certain studies

Table 3
Attendance rates between 1963-64 and 1978-79 (%)^a

Age	1963-64	1967-68	1973-74	1978-79
2	1.8	1.9	9.1	5.5
3	8.1	10.1		16.3
4	32.1	42.5		60.8
5	45.7	59.5	72.6	103.8
6	79.2	94.6	104.4	103.2
7	79.7	91.8	106.8	104.9
8	81.0	90.8	108.7	103.2
9	80.5	88.1	112.2	102.5
10	85.8	94.2	112.7	108.9
11	84.9	95.4	106.3	104.6
12	73.7	86.3	101.7	101.6
13	52.2	76.7	92.2	91.6
14	28.1	43.7	59.4	78.1
15	12.9	29.7	44.7	62.2
16	11.8	22.8	40.1	49.2
17	11.2	21.0	33.4	39.3
18	9.2	15.4	21.4	31.5
19	7.2	11.6	20.4	27.4
20	6.2	11.8	22.5	34.5
21	4.9	7.9	14.8	15.2
22	4.4	6.0	9.1	10.5
23	2.8	5.1	7.3	7.4
24	3.5	4.8	5.7	4.6
25+	5.9	8.5	13.8	16.6

^a Data from *Ministerio de Educación y Ciencia, Secretaría General Técnica*

primary and secondary education during the years of marked expansion was satisfied by the private network, as was also the case especially with preprimary and vocational training. At the secondary level, however, vocational training has not obtained either the prestige or the attraction that the Act presumed it would and has low enrollment rates. Parallel to this phenomenon, at the university level, the faculties, and not the technological schools, have absorbed the greatest part of the university expansion.

The tremendous expansion of the system since the 1960s has brought such pressure to bear on resources that innovations and qualitative reforms have had to be postponed.

2. Finance

The expansion and modernization of Spanish education, promoted by the 1970 General Education Act, counted on important additional resources which were not eventually provided. At the end of the decade, two opposing forces exerted pressure on public resources for education: one was restrictive, i.e., the economic crisis and its serious repercussions; the other was expansionist, i.e., the demands made by new political forces for further educational facilities. These tendencies are reflected in the percentages of the state expenditure on education, compared with those of the national income and the total state budget. Both indicators are con-

siderably lower in Spain than in similar countries. The percentage of the national income and the state budget allotted to education were 1.3 and 10.6 respectively in 1960, 2.8 and 17.5 in 1970, and 2.9 and 17.5 in 1980. Consequently, free education has not been achieved in compulsory schooling. Financial assistance for the noncompulsory levels of preprimary and secondary education involves selection based on a means test. Furthermore, the increased demand for higher teacher salaries implies that other expenses such as books and teaching and research materials are deterred.

3. Supply of Personnel

The expansion of the educational system and the innovations of the 1970 reform required an increase in the number of teachers, with better initial training and improved inservice training. The problem of the number of teachers was the easiest to solve—by the large-scale employment of graduates, with the result that the teacher-pupil ratio was gradually reduced in primary education from 1:36 in 1960 to 1:34 in 1970, and to 1:32 in 1980. However, these averages hide an extremely unequal range and, in certain specific cases, a real shortage of teaching staff.

There is no doubt that the greatest difficulties have lain, and still lie, in pre- and in-service training. The traditional procedures for training and admission to the profession were either useless or nonexistent and those introduced by the 1970 Act have scarcely functioned. Some improvements have been made in teacher training but this has been accompanied by many conflicts and tensions among the educational authorities, among teacher trainers, and among the teachers themselves.

The 1970 General Education Act introduced different mechanisms, both for initial training and for keeping the existing teaching staff constantly up to date. For the initial training of teachers of primary education, colleges received the status of university colleges and certain specializations were introduced; the further specialization of those who were already teaching was to be carried out intensively, either in person at the institutes of educational science (ICE), established in all the universities, or by correspondence courses, carried out through the Open University (UNED). Teachers of secondary education were to have a degree in their corresponding subject, to receive their teacher-training certificate in an institute of educational science and to be kept up to date by means of permanent seminars organized by the schools themselves. The legal requirements for university professors were similar but have not been applied.

An unfulfilled project of the 1970 Act was to simplify and lessen the differences between the many categories of teaching staff that existed formerly.

At the beginning of the 1980s, the systems of pre- and in-service training were under revision for two reasons: on the one hand, because of dissatisfaction with the present systems and, on the other, because

the universities, which, in one way or another, must undertake the new functions, are still in the process of being reformed.

There are problems, too, with the status of the teaching body. In the 1970s, there was a large-scale recruitment of teachers, all, except those at university level, with tenure. The possibility of employing new teachers is therefore restricted. This implies that, in future, there will be an increase in the average age of the teaching corps, with infrequent substitution and little renewal. Despite the fact that new graduates who gravitate towards teaching could be used for attendance activities, innovative practices, or extramural activities, the growing financial constraints are likely to make this very difficult.

4. Educational Research

Educational research in Spain, while following developments in the majority of European countries, albeit with delays, has also been affected by national educational and social changes, which have brought a large degree of uncertainty. It is again useful to refer to the time periods used earlier.

Before 1970, educational investigation was infrequent and mainly individual and sporadic. Located in various universities, it could rely on no specific resources, nor was it promoted by any demand other than the purely academic.

The reform decade of 1970–80 provided a strong impetus for, and change of direction in, educational research. The institutes of educational science and a main center in Madrid (first called the *Centro Nacional de Investigaciones para el Desarrollo de la Educación* (CENIDE), and after 1974, the *Instituto Nacional de Ciencias de la Educación* (INCIE)) were created for the purpose of undertaking educational research. Resources, both financial (amounts set aside for research) and human (researchers sent with scholarships to outstanding national and foreign centers), were increased.

Most resources were organized in terms of annual national research projects. They were programmed and coordinated from the central institute and developed in the institutes of educational sciences. From the nine major projects developed during the decade, more than 250 subprojects were passed for a total amount of more than 275 million pesetas.

In the first half of the decade more financial resources were available, there was greater encouragement from the administration and the *Centro Nacional de Investigaciones para el Desarrollo de la Educación* was converted into an autonomous body, the *Instituto Nacional de Ciencias de Educación* with its own budget and staff. By the second half of the decade more experience had been accumulated but there were fewer resources and less encouragement, which implied a certain tendency

to bureaucratization and a greater isolation of research activities. Furthermore, during these years, political and administrative unrest made itself felt, culminating in the suppression of the central body (INCIE) in 1980 under the pretext of effecting economies in the budget.

From 1981 onwards, a new stage was embarked on with a complex panorama. Research activity recovered with the establishment in the Ministry of Education of a research unit, with the coordination of educational research carried out in the institutes of educational sciences and other centers, and with new funds being especially set aside for research in education. In 1982, a new national scheme for educational investigation was drawn up with more than 50 projects, together with certain programs for development and innovation at the different educational levels.

5. Major Problems

The complex, and no doubt difficult, situation which awaits the Spanish educational system in the remainder of the twentieth century might be classified by distinguishing three types of problem—all of them closely related.

The first embraces difficulties which are common to other countries and are derived from the economic and employment crises, from technological innovations, and from cultural changes and changes in life-style.

The second set of problems are those produced by the educational gap between Spain and other European countries. Since there is a delay in the decline of the birth rate in Spain, it will not be possible to concentrate in the immediate future on improving the quality of education because the quantitative demands of the residual expansion will continue for several years. The educational reforms forced on Western countries by the crises referred to have only just begun in Spain and are at different stages of development for different levels of education. When Spain eventually joins the European Community, it will have to reduce or eliminate these qualitative gaps, for this is crucial for employment.

The third set of problems arises from the specific circumstances of the country. Whereas the 1970 reform was instigated by economic changes, it was mainly political changes that provided the impetus to the reforms of the 1980s; however, the political transition has only just begun, and it is insistently requested that education help to cement a traditionless democracy. A recently established democracy brings added political difficulties to educational reform, since, apart from inherent conflicts of educational ideology, there are now added political conflicts.

Decentralization of planning, educational administration, and teaching has only just begun at the regional levels and it will take some time for the problems of decentralization to be overcome.

Neither the problem of the controversial dual system (private and state schools) nor the closely connected problem of free education at the compulsory level have yet been solved. The relative percentage of pupils in each type of school in 1979–80 is shown in Table 4.

Table 4
Percentage of pupils in state and private schools by level 1979–80

Level	State schools	Private schools
Preprimary	52.7	47.3
Primary	62.9	37.1
Secondary	56.0	44.0
Vocational training	42.7	57.3

Much more attention still needs to be given to the areas of special education, the education of social groups with special difficulties, and the problems of bilingual communities. Finally, it is to be expected that the economic, technological, and social changes under way will bring with them a demand for a wider and more varied adult education.

Sri Lanka

D. A. Perera

Sri Lanka (formerly Ceylon) is an island with an area of 65,610 square kilometres (25,325 square miles), situated off the southern tip of the Indian subcontinent, and lying at about 7°N and 82°E. The coastal plains, with an average temperature of 26°C, give rise to central highlands, with temperatures ranging from 10° to 20°C, where many of the country's tea plantations lie. The strategic position of the country on the ancient sea routes led to its being colonized by the Portuguese, the Dutch, and finally the British. Of these, it was only the British who had complete control over the whole of the country, retaining it for close to 150 years, until 1948. In spite of several educational reforms, the educational system of the country still shows considerable British influence.

The 1981 census gives the population as 14.8 million inhabitants, of which 51 percent are males. The annual rate of population growth is 1.7 percent. The "low" population projection for 1991 is of the order of 17 million, the "high" projection being 20 million. The population is relatively young, 46.1 percent (1981) being under 19 years. More than 75 percent of the population is rural. Sri Lanka is a multiracial and multireligious country. The Sinhalese comprise the majority, representing 74 percent (1981) of the population, with 18.2 percent (1981) Tamils. The Moors comprise about 7 percent of the population, and the balance is made up of Europeans, Eurasians, Malays, and others. Some 69

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percent of the population are Buddhists, with about 15.5 percent Hindus, 7.6 percent Christians, and 7.6 percent Moslems.

The economy is based largely on agriculture, which in 1983 accounted for 26.9 percent of the gross domestic product. The export of tea and rubber still brings more than half of total foreign-exchange earnings. Attempts to diversify the economy have had some impact in that nontraditional exports such as precious and semiprecious stones, clothing, and ceramics are gaining in importance and industries have been established to meet local requirements. Among the latter are factories for the production of cement, paper, steel, tyres, textiles, plywood, ceramics, fertilizer, leather, and flour. The country has its own petroleum refinery.

Sri Lanka is an independent republic within the Commonwealth. It has an executive president elected by popular vote and a parliament of elected representatives. A cabinet of ministers is appointed by the president from among members of parliament. There are officially recognized political parties representing the various shades of political opinion.

1. Goals of the Educational System

The attainment of political independence (1948), the use of the national languages Sinhala and Tamil as the media of instruction (1945), and the introduction of a

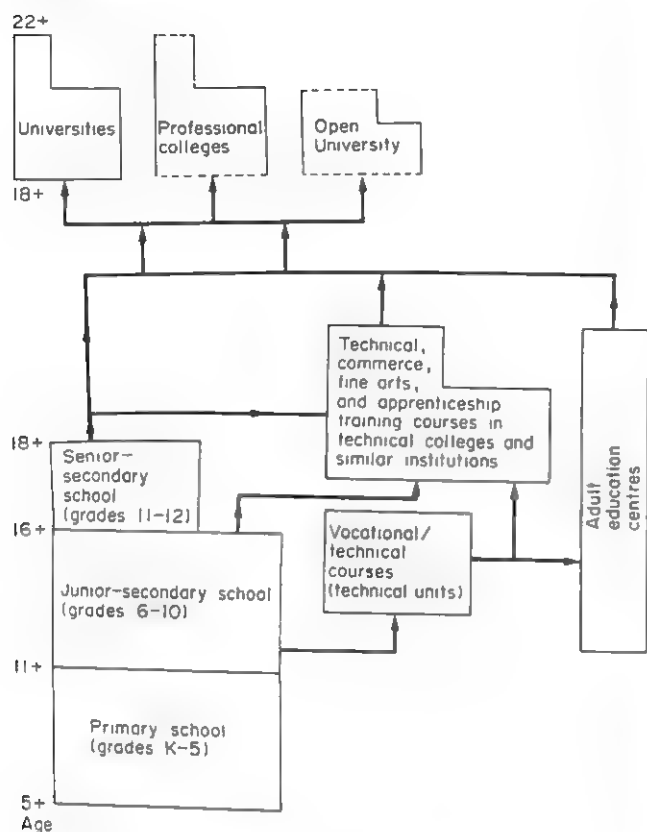


Figure 1
Structure of education system, 1982

system of free education (1945) led to a massive expansion of the formal educational system.

The expansion of the system has not been accompanied by an explicit reformulation and determination of its goals. The teaching of religion is compulsory. The development of the full potential of each child and the acquisition by all children of the knowledge, skills, and attitudes necessary for a modern-day citizen of Sri Lanka are national goals with obvious relevance to education. Generating the human resources needed for a diversification of the country's economy is another national goal relevant particularly to the tertiary level of education. National integration in the context of a pluralistic society is a goal which is increasingly gaining in significance. The need for educated citizens to be economically productive is also recognized.

2. Structure and Size of the Educational Effort

Figure 1 presents, in diagrammatic form, the structure of the educational system in 1982. The formal system is almost exclusively a state system, coming under the Ministries of Education, Higher Education, and Educational Services.

The social welfare policies followed by successive governments since 1945 have led to increasing access to

education at all levels. The grade 1 enrolment has been close to 100 percent since the early 1970s. The school-going population (5 to 14) as a proportion of the total population for this age group was 85 percent in 1984. Table 1 gives school enrolment for selected years in the period 1971 to 1983. It should be noted that the age of admission was raised in 1972 and lowered again in 1978. The secondary enrolment includes repeaters in grades 10 and 12. The school-going population rose from 2.5 million in 1975 to 3.5 million in 1983.

The General Certificate of Education (GCE) Ordinary (O') level examination is held at the end of grade 10. On the basis of their performance in this examination, pupils are selected for senior secondary school. The choice of subjects in the senior school is also determined by their performance in stipulated subjects in the GCE O' level examination. Generally about 25 percent qualify to enter senior secondary school.

Those who fail to qualify for the senior school, as well as those who drop out early, provide the inputs into the various middle-level vocational or technical institutes maintained by the Ministry of Education and other ministries, notably the Ministry of Agriculture, but also those of Health, Labour, Fisheries, and Power. Several nongovernmental organizations also offer vocational/technical courses of various types. It will be observed from Fig. 1 that the intake into technical institutes may also be from the senior secondary output. Generally those who fail to qualify for universities and other similar higher education institutes seek admission to the technical courses. The vocational/technical institutes provide a variety of courses. There were 23 technical institutes in 1986.

The National Apprenticeship Board coordinates the practical and theoretical training leading to the National Diploma in Technology, which is the highest nondegree level of technical training. It also coordinates the training of most other middle-level technical personnel required.

There are eight universities with a total enrolment of 18,073 (1983), of whom about 7,500 are females. The University Grants Committee, which functions under the Ministry of Higher Education, allocates funds and

Table 1
Enrolment in primary and secondary schools for selected years, 1971-83^a

Year	Primary schools (kindergarten to grade 5)	Secondary schools (grades 6-12)	Total
1971	1,821,862	1,004,441	2,826,303
1974	1,467,911	1,150,014	2,617,925
1977	1,555,754	1,010,627	2,566,381
1980	2,054,660	1,226,177	3,280,837
1983	2,121,157	1,339,218	3,460,375

^a Sources: adapted from Engquist et al. (1982); Ministry of Education, Colombo 1983

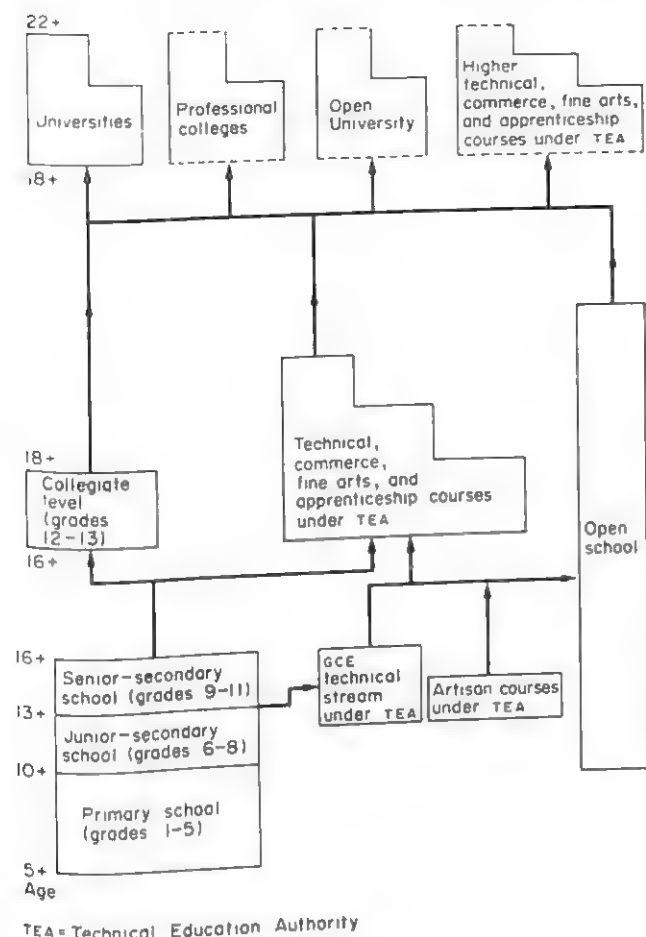


Figure 2
Structure of education proposed in the 1982 White Paper

regulates the admission of students into the universities. Apart from the universities, there are several professional colleges which provide training at this level.

In 1982, the Ministry of Education published a White Paper indicating significant changes to the structure of education. The changes proposed in the White Paper, which are shown in Fig. 2, are being implemented in stages. The revised school structure was brought into operation in 1985 and the changeover will be completed by 1990. The classes for the first year in school have been renamed as Year 1. Hitherto they were referred to as the Kindergarten. The earlier grade 1 therefore became Year 2 and so on. This nomenclature has been in use since 1986. The revised curricula have been introduced from 1985 and the first examination is scheduled for 1988. Another significant proposal of Colleges of Education (see Sect. 4). Salaries of teachers have been revised as indicated in the White Paper. An Act for the creation of a National Institute of Education (NIE) to undertake the qualitative work of the Ministry such as curriculum development, teacher education, staff development, evaluation and research was passed in

1985 and brought into operation in January 1986. The NIE may grant degrees and diplomas, create other institutes, and enter into contracts with various institutes to execute its programmes. A council with representatives from the public and private sectors has been appointed to manage the affairs of the Institute.

A nonformal education unit has been functioning within the Ministry of Education since the early 1970s. The technical units and adult education centres shown in Fig. 1 are serviced by the Nonformal Education Unit. A special cadre of adult-education officers working in cooperation with all state, as well as nongovernmental, agencies in the field are expected to take the leadership in organizing courses at these centres mainly to meet the needs of young school leavers in their respective areas. The emphasis is on income-generating skills. Existing infrastructural facilities are being used. Special workshops and resources are also being provided. In addition to the courses organized by the state, several nongovernmental organizations provide nonformal education of various types.

3. Administration and Finance

For educational purposes the country is divided into 30 education regions. An education region is further subdivided into education circuits, each of which may contain from 25 to 50 schools depending on the location. For the state schools, all appointments of teachers, heads of schools, and other staff are made by the state. General educational guidance and supervision of the schools in a circuit (including any private schools) is by the circuit education officer residing in or close to the circuit. The circuit education officers in a region are directed by a regional staff comprising a director of education with several education officers. A regional education office, with other supporting staff such as clerks and accountants, provide the institutional facilities.

The universities, polytechnics, and technical institutes come under the Ministry of Higher Education. The Ministry of Education Services is responsible for the administration of educational services such as supply of textbooks, buildings, furniture, catering, and other ancillary services.

As indicated earlier, the formal system is almost entirely a state system. Capital and recurrent costs are borne by the state. School development societies assist in putting up school buildings. Schools are allowed to levy a facilities fee from pupils, but the payment of this is not compulsory. Extracurricular activities, such as sports, are financed from facilities fees. No fees are charged from pupils when they sit a public examination for the first time, although fees are charged for subsequent sittings. Since 1980, school textbooks have been provided free to all pupils from kindergarten to grade 10. The universities, too, depend on state funding. University tuition is free up to the first-degree level. State expenditure on education is given in Table 2.

Table 2
State expenditure on education, 1978-84 (millions of rupees)^a

	1978	1979	1980 ^b	1981 ^b	1984
Ministry of Education	1,002.7	1,185.8	1,358.0	1,988.1	2,720.5
Ministry of Higher Education	103.6	166.0	292.0	308.0	597.3
Total	1,106.3	1,351.8	1,650.0	2,296.1	3,317.8
Total national budget	16,831.0	20,683.0	23,463.0	28,522.0	49,516.6
Education budget as percentage of national budget	6.6	6.5	7.0	8.0	6.7

a Source: adapted from Engquist et al. (1982) b Estimates

4. Teacher Supply and Teacher Education

Table 3 gives the numbers of teachers in the school system in 1979, classified by qualification. The educational level of recruits to teaching vary a great deal. Recruits range from graduates to those with GCE O' level passes in stipulated subjects. The professional training of graduate teachers is undertaken by the universities. For other teachers, preservice training is given through the 24 teacher-education colleges. Most of these train teachers for primary schools, while the others train teachers for secondary schools. A system of correspondence courses with supervised teaching is also in operation at both graduate and nongraduate levels. The system has a fair proportion of teachers without the formal preservice training. The Ministry of Education has an extensive programme of inservice education of teachers. The teacher-training colleges are administered by the ministry itself.

Colleges of Education, each with a total enrolment of about 500 pupils and providing a two-year institutional training followed by a one year internship, are being established. Five were started in 1985 by the conversion of some of the existing teacher-training colleges. These admit students with GCE (A' level) passes who on successful completion of the course are appointed as teachers. An allowance to defray the cost of board

and lodging is provided and tuition is free. With the establishment of further Colleges, it is expected that in a few years time all recruits to the teaching profession will receive an institutional training before appointment.

5. Curriculum Development and Teaching Methodology

The Curriculum Development Centre operates at the national level and is responsible for the development of curricula for all levels of the school system. It is also, in general, responsible for the design and implementation of inservice education programmes. Inservice education is implemented through the field supervisory staff (circuit education officers and other education officers), teachers in the field who are specially selected to work part-time, and other teachers released for full-time inservice work. The training of all these is also the responsibility of the centre.

The material output from the centre consists generally of syllabi, teachers' guides, manuals, and for some areas pupil textbooks and work books. All of these are made available in both Sinhala and Tamil. The teachers' guides are meant to provide general guidance, and individual teachers are expected to modify and adapt the suggestions to suit their particular situation. A major problem is that this does not in fact happen to the extent expected.

In primary schools, an integrated curriculum has been in operation for several years. Pupils are expected to be organized into flexible groups to engage in the many activities recommended. Activities outside the classroom and the supply of unstructured material in the classroom have been greatly encouraged. Formal tests and reports have been discouraged. Pupils are not expected to be kept back in a grade at the end of the year but this practice still exists.

In secondary schools, teaching methodology is more didactic. In areas such as science, mathematics, and social studies, pupil activities are recommended. Schools with grades 9 and 10 have laboratory facilities for teaching science. Teaching in the secondary school

Table 3
Teachers classified by qualification (1983)^a

Qualification	Number of teachers
Graduates—science/math	2,486
Graduates—others	19,229
University diploma in math/science/others	294
Special trained	28,858
Other trained	49,769
All other teachers	28,844
Teachers in training colleges	8,382
Total	137,862

a Source: Ministry of Education, Colombo, 1983

is dominated by the need to prepare pupils for the GCE O' level at the end of grade 10 and for the Advanced (A') level at the end of grade 12.

A major curriculum problem is to strike a balance between the needs of the small but critical group of students who will continue their studies beyond the secondary school and the larger majority who will not be able to do so.

6. Major Problems

A major problem arises from the unsatisfactory relation between education and the other sectors. The absence of clearly perceived and accepted national developmental goals makes it difficult, if not impossible, to take appropriate measures within and outside the education sector to ensure that the output from the educational system is capable of executing the tasks and acquiring the knowledge, attitude, and skills needed to achieve national goals. Successive governments have attempted to diversify the economy, industrialize, create employment opportunities, and the like. Yet unemployment or underemployment of even technically qualified people, such as those with the National Diploma of Technology, is not unknown. It is reasonable to suggest that the problems faced by the education sector lie not only outside the education sector but outside of Sri Lanka as well.

Within the education sector itself, several significant problems exist and are likely to continue for some time. Improving the quality of teachers, heads of schools, and field supervisory staff is a particularly significant one. The system has a fair proportion of teachers who are not adequately trained and most heads of schools and field supervisory staff have not had special training for their duties.

The rapidity with which changes are taking place, the magnitude of the changes themselves, the impossibility of being unaffected by changes in other parts of the world, all require a certain flexibility and capacity for innovative action, which the current formal system may not have. The establishment of the NIE and the management changes being effected are expected to overcome this.

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Sudan

G. Badri

The Democratic Republic of Sudan is the largest state in Africa with an area of 2,500,000 square kilometers (967,000 square miles). It extends between latitude 22° and 4° North and between longitude 22° and 38° West. The country lies wholly within the tropics, and, apart from some 644 kilometers of coastline of the Red Sea, is entirely landlocked. With the exception of the Sudd

area in the south, where there are extensive swamps, and a few areas near the Red Sea and in the west and the midwest, where some hills are to be found with local climatic effects, this large country consists almost entirely of one vast plain. The Sudan has been divided traditionally into three fairly distinct zones (Roth 1953). The northern zone, from latitude 22° to about 18° North,

consists of desert land and forms an extension to the Sahara, with average temperatures as high as 40°C. The central zone, from about latitude 18° to 12° North, contains the richest agricultural and grazing land in the country. The southern zone of the Sudan extends over some 563 kilometers between latitudes 12° and 4° North. The region is characterized by heavy rainfall. Hence, the vegetation of the country changes from thorny desert shrubs in the north to the richer grasslands in the center and thickly forested jungle in the extreme south. The River Nile and its tributaries cross the country from south to north, uniting, as it were, the three zones.

Diversity is not confined only to the physical features of the country, but is also reflected in the population. Ethnically, the Sudanese represent a cross section of all Africans. Some are Arabs, some Hamites, some Negroid Africans, and some are a mixture of two or of all three. Some sources claim that there are 597 tribes in the Sudan comprising 56 tribal groups (Said 1966). Traditionally, the people of the Sudan have been divided into northerners and southerners, or Arabs and Africans, although this division does not reflect the true picture, as neither group is really homogenous. In the north, Islam and the Arabic language have a unifying influence on the people. In the south, there are many different languages, with English used as the lingua franca by the educated section of the population and Arabic by the rest of the population. The multitude of languages in the south has obvious implications for education.

Being predominantly agricultural and pastoral, the economy of the Sudan represents a less diversified picture. The structure of economic activities in the country may best be viewed as comprising two economies. On the one hand, there is the subsistence economy in which production for the market plays a small part and most of the population is engaged in the rain-fed cultivation of food crops using traditional methods; on the other hand, there is the money economy devoted to the production of cash crops, notably cotton, with modern methods of irrigation and tillage (Gusten 1966). In addition to cotton, other foreign-exchange earners are sesame seeds, groundnuts, camels and cattle, oil cakes, hides and leather goods, and gum arabic. Manufactured goods and oil form a substantial part of imports.

Like other developing countries, the societal cleavage in the Sudan is between the urban and the rural population. Although the urban population comprises only about 20 percent of the total population, almost all government services in the form of schools, hospitals, electricity, and piped water are concentrated in the urban centers.

In an attempt to close the gap between urban and rural areas, a regional form of government was introduced in 1980. Each of the six regions has its own government and legislative assembly. It is hoped that this decentralized system will accelerate the socio-economic development of the different regions.

1. General Structure and Size of the Education Effort

Figure 1 presents the structure of the educational system. Formal education in the Sudan comes under the jurisdiction of the Ministry of Education and Guidance. During the colonial period, the Department of Education was the agency responsible for opening schools. The system of education introduced by the colonial administration followed a 4-4-4 year schooling ladder. The system was retained until 1970, when the government changed it to the more popular pattern of 6-3-3.

In primary education, for historical reasons, the *Khalwa*, or Koranic school, still plays a role in the education of the young, especially in rural areas. Also in the southern Sudan, there are village schools providing education for 4 years only. Leavers of both the *Khalwa* and village schools may join grade 5 to complete their primary education. At the end of grade 6, all children sit for the Primary School Certificate, a local examination in each region. The successful ones are admitted to the intermediate schools, which form the first stage of the secondary level.

Because of the lack of a sufficient number of intermediate schools, a great number of children terminate their education at the primary level. Some of the children find placements in the dozen or so youth vocational

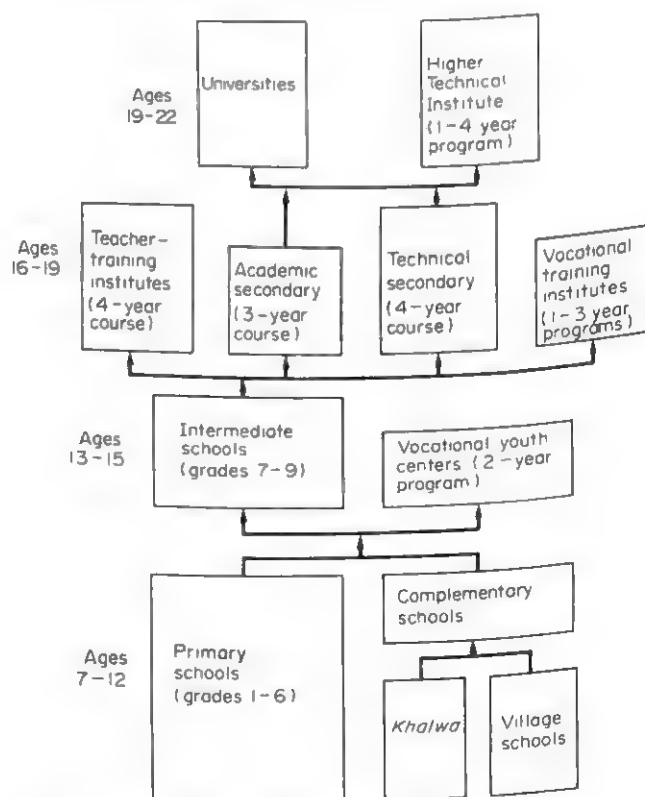


Figure 1
Structure of the educational system

Table 1
Increase in enrollments 1956-80

Year	Primary		Intermediate		Secondary	
	Male	Female	Male	Female	Male	Female
1956	76,996	26,581	4,675	1,288	1,700	265
1959	200,156	65,306	31,351	3,005	9,670	443
1962	262,611	113,571	40,699	10,800	13,915	2,567
1965	274,980	149,697	54,479	16,734	22,039	5,623
1968	388,549	184,074	90,636	31,066	27,567	6,345
1971	630,869	301,058	84,278	33,070	27,022	8,325
1974	851,191	406,148	133,269	52,896	32,472	12,674
1977	828,364	504,343	157,544	82,516	50,661	26,463
1980	873,054	591,173	172,537	106,230	73,278	42,414

centers. A second general examination awaits the students at the end of their intermediate education—the Intermediate School Certificate. Those who succeed in this examination are admitted to one of the following types of school: academic secondary schools, technical schools, teacher-training institutes, or the vocational-training centers. Here again, a great number of children do not find places in schools. Table 1 presents the increases in enrollment in primary, intermediate, and secondary schools from 1956 to 1980.

At the end of the secondary level, all students in the country sit for a national examination, the Sudan School Certificate. The certificate is the basis for admission to higher education institutions. Once more, a great number of students do not find places in universities and other higher education institutions. In 1981, the number of Sudanese students studying abroad reached 20,913, while those in Sudanese universities and higher education institutions totalled 27,016 (Sudan 1981). This shows clearly the paucity of higher education institutions in the country.

Up to 1980, the administration of the education effort was centralized in the Ministry of Education and Guidance. With the introduction of the regional form of government in the Sudan, education administration has largely been decentralized: all primary- and intermediate-education administration, including the appointment of teachers and the setting up of transition examinations, is done independently by each region. However, secondary education, teacher training, curriculum development, and higher education remain under the jurisdiction of the Central Ministry of Education and Guidance.

2. Supply of Teachers

There are three kinds of teacher in the Sudan: primary-, intermediate-, and secondary-school teachers. Each type acquires different qualifications and is trained separately. During the academic year 1980-81, there were 63,918 teachers in Sudanese schools, distributed as follows: 43,451 in primary schools, 12,598 in inter-

mediate schools, 7,185 in the academic secondary schools, and 684 in the vocational and technical secondary schools (Sudan 1981).

The training of primary-school teachers takes place in teacher-training institutes. There are 13 such institutes for boys and girls who have graduated from the intermediate schools, and they are given four years' training. The first three years concentrate on academic subjects, and the final year on teaching methodology and educational subjects. The graduate is expected to teach all the subjects taught in the primary schools. The number of trained teachers is lagging behind the rapid expansion in primary education and, to make up for the shortage, the Ministry of Education has started to appoint graduates of secondary schools as teachers. These are given either one year's training in methodology or two years, inservice training.

At the intermediate level, all teacher training is undertaken after the teacher has been appointed in the profession. There are three residential institutes of training plus the Institute of Inservice Training. Teachers reside in the three institutes for one academic year during which they will be trained mainly in teaching methods. Those who opt for the Inservice Training Institute are trained in two years through correspondence courses. There are also special training institutes for teachers of the Arabic language, religious knowledge, and English language. In addition, there are a dozen or so teachers who receive training for a period of one year in the College of Fine Arts (for art teachers), the Institute of Music and Drama (for teachers responsible for extracurricular activities in the schools), and the Institute of Physical Education (for physical education teachers).

In secondary schools, teachers are university graduates. Until 1974, the Higher Teachers Training Institute, which was established in 1958, was run by the Ministry of Education to feed the secondary schools with trained teachers. After that the institute became the Faculty of Education, University of Khartoum. It still functions as a teacher-training institute, although its graduates also seek employment outside the profession. On the whole, secondary-school teachers receive no training although some may receive about a month's training. Another source of secondary-school teachers are teachers from abroad, mainly Egypt (for mathematics and science) and the United Kingdom (for English language).

The teacher-supply system at all levels of education suffers from two problems: first, the expansion in teacher-training institutes is far behind the expansion of the schools at all levels, and hence the schools are filled by a great number of unqualified teachers. Second, since the teaching profession is not financially rewarding, many qualified teachers are deserting the profession. Given the present economic state of the country and the present rate of expansion in education (an expansion which will be very difficult to curb due to public demand), the adequate supply of trained teachers is a very distant goal.

Table 2

Cost per pupil in education at the different levels 1979-80
(Sudanese pounds)

Level	Day	Boarder
Primary	30,700	105,000
Intermediate	83,300	184,300
Secondary		
Academic	145,500	250,600
Technical	182,500	333,400
Higher	3,250,000	

3. Finance

Education in the Sudan is free from the primary-school level through to university. Any student who can successfully compete for and gain a place in a government school or university is educated free of charge. In higher education institutions, students are also provided with room and board free of charge. Some students who are unable to find a place in government schools seek education in nongovernment schools, where they pay fees. The nongovernment schools represent 12 percent of the total at the intermediate level and 42 percent at the secondary level (Sudan 1981). Table 2 shows the cost per student for each level in 1979-80.

As in all developing countries, public expenditure on education has increased tremendously. In 1956, when Sudan achieved independence, the education budget was 11.8 percent of the national budget. This increased to 18.9 percent in 1959 but declined to 11.07 percent in 1981 (Sudan 1981).

In 1977, primary education took the lion's share of the education budget with 45.3 percent, intermediate education obtained 19.3 percent, secondary education 14.2 percent, and higher education 14.2 percent (Sudan 1977 p. 49).

4. Nonformal Education

Nonformal education in the Sudan started as part of the Ministry of Education's efforts to eradicate illiteracy. The Adult Literacy Program started more than two decades ago to help bring down the illiteracy rate, which is estimated to be 80 percent. Although the expertise and the infrastructure needed for the execution of the program is adequate, the program is not functioning as well as it should due to lack of funds. During the fiscal year 1979-80, for example, the funds allotted to the program were about a quarter of the amount required (Sudan 1980).

The other types of nonformal program began in the 1970s. The major effort is in the youth training centers administered by the Higher Council for Youth Welfare which is financed by several United Nations agencies. The target population of these centers are young persons of both sexes who dropped out or who never attended school. The major aim of the centers is to provide

youths with vocational skills which will enable them to participate in the labor force.

A second effort, which is administered by the Labor Department, is the Vocational Training Center in Khartoum which aims at producing skilled electricians, plumbers, carpenters, and so on. More recently, the Ministry of Education embarked on a new project financed by the World Bank. This is the establishment of what are called integrated rural education centers (IREC). These centers will serve as primary schools for children and centers for adult education and training in skills such as agriculture, farmer cooperatives, home economics, and village crafts. It is envisaged that they will become the focal points for the development of village life. The project will start with the establishment of 24 centers.

As a whole, the nonformal education effort is very small. Even the largest project, the Adult Literacy Program, involved only 34,144 Sudanese during 1979-80 (Sudan 1980).

5. Educational Research

Educational research in the Sudan started in the early 1930s with the establishment of the Institute of Education in Bakt el Ridha. The main function of the institute was, and still is, twofold: to train teachers for the primary level and to develop the curricula and textbooks for general education in the country. Moreover, the institute carries out research into ways of improving the quality of education and tests innovative methods of teaching before disseminating them to other parts of the country. For example, the institute prepared and tested the curriculum for the training of teachers for the new integrated rural education centers (IREC).

Another major research endeavor is carried out in the College of Education at the University of Khartoum, in the form of students' theses. This type of research, however, is of a theoretical nature and does not have practical application.

6. Major Problems

The Sudanese educational system is faced with several problems which will probably persist into the distant future. The first important aim is the achievement of universal primary education. The Ministry of Education has set 1990 as the date by which to achieve that goal. However, the economic situation of the country and the acute shortage of teachers makes the realization of this goal highly improbable.

Second, there is a great shortage of trained teachers. This is due mainly to the fact that the rapid expansion in the number of schools since independence was not paralleled by expansion in the teacher-training institutes. Moreover, as noted above, because the teaching

profession is not financially rewarding, a great number of trained teachers leave the profession.

Third, there is a wide disparity in educational opportunities between boys and girls, urban and rural areas, and the different provinces. Although the number of girls in all schools has risen since the early 1970s, they still constitute only 40 percent of the school population (Sudan 1981). The imbalance between the different provinces of the country is even more alarming: the percentage of the intake into grade 1 varies between 77 percent for boys in the Nile province and 3 percent for girls in the Lakes province, while for the whole country it is 37 percent (Sudan 1979).

Fourth, technical and vocational education lags behind academic education. During the academic year 1980-81, the number of students in the technical and vocational schools at the secondary level constituted only 13 percent of the number of students in the academic secondary schools (Sudan 1981).

Fifth, the rate of attrition is very high. Of those children who enter primary schools, 30 percent advance to the intermediate schools and only 11 percent reach the secondary schools (Sudan 1981). The rest leave school with no employable skills. In their attempt to reach universal primary education, education planners are focusing on quantitative expansion. However, those primary-school leavers who are unable to continue their education are provided with no marketable skills. Hence it is important to think about new types of education which can satisfy the needs of the different Sudanese communities. The integrated rural education center is a step in that direction.

Lastly, the Sudan with its various ethnic groups is a country of different cultures. This raises many questions about the curriculum and the language of instruction. Should the curriculum be unified, as is the case now, or should it be decentralized, at least at the primary level? Should the vernacular be used in primary schools where the Arabic language is not the mother tongue of the children? Finding answers to these questions is no easy matter, for they are not only educational but also political problems.

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Suriname

W. W. Dwarkasing

The Republic of Suriname, with an area of 164,000 square kilometers (63,320 square miles), is situated on the northeast coast of South America, bordered by Guyana, French Guiana, and Brazil. It is a former Dutch colony which became a constituent part of the Kingdom of the Netherlands in 1954 and attained political independence in 1975. The 1980 census recorded a population of 355,000 of which over 90 percent resided on the coastal strip which is approximately 40 kilometers wide. Two-thirds of the population are concentrated in two of the nine districts in approximately 1 percent of the total area: Paramaribo, the capital city, shelters 68,000 inhabitants and the district of Suriname, which surrounds the capital city, has 166,500 residents.

The annual population growth rate was 2.1 percent between 1964 and 1972. The 1980 census showed a 6.5 percent decrease in population from 1972 to 1980. The decrease was mainly due to emigration to the Netherlands in the years before and after independence. Some 39 percent of the population are below age 15 and 53 percent below age 20.

Demographic conditions include ribbon development in the rural areas and some tribe-based settlements in the interior along the rivers. The latter are populated by bush Negroes (40,268) and American Indians (6,353). Except for American Indians, the citizens have their origins in several other parts of the world and belong to different ethnic groups, including Negroes, Creoles (mixed Negro-European), Hindustanis, Indonesians, Chinese, and Europeans. All have lived for generations in the country, but have still preserved much of their original cultures and languages. The Sranang Tongo, a mixture of English, different African languages, Dutch, and Portuguese, serves as a lingua franca. Dutch is the official language in government and education. For the vast majority of persons it is a second language to be mastered in the early school grades.

Between 1975 and 1979 the gross domestic product (GDP) in real terms (constant 1975 guilders) grew at an average rate of 3.4 percent. This growth is due mainly to government investments from Dutch development-aid funds and a bauxite levy. Sectoral contributions to

GDP in 1979 were as follows: primary 26, secondary 14, and tertiary 60 percent. In spite of its rapid decrease from 22 to 16 percent in the period 1975 to 1979, bauxite mining contributes a third of government revenue. In the same period, government expenditure increased in size from 26 to 28 percent. Per capita income in real terms (constant 1975 guilders) in 1979 was Sf2,170 (US\$1 = Sf1.8). Between 1975 and 1977, exports increased from Sf466 million to 589 million, and imports from Sf454 million to 709 million.

Some 23.5 percent of the population is economically active (1980). Employment distribution among sectors is as follows: primary 23, secondary 15, and tertiary 62 percent (including government 38 percent). Official unemployment figures vary between 16 and 24 percent.

A military coup on February 25, 1980, resulted in a radical change of government structure and the beginning of a revolutionary movement. Parliament has been abolished and the military authority (three members) together with the policy center (two military members and the prime minister) became the principal authorities for legislation and policy making. The president, who is the head of state, is appointed by these bodies in consultation with functional organizations.

The board of ministers consists of nine civilian and three military members. The judiciary has remained independent while the constitution has been replaced temporarily by a decree which provides for basic human rights.

The chief political goals include: increased government control of the nation's natural resources, development of productive economic sectors (agriculture and industry), employment expansion, improved production and living arrangements in the countryside, a fair share for all the people in prosperity and welfare, and improved participation of the people in socioeconomic development.

In consequence, education efforts are concentrated on changing the system to provide equal opportunities for all. This involves changing the school structure and developing curricula that are life and work oriented and not limited to intellectual achievement.

1. General Structure and Size of the Education Effort

1.1 Formal Education

First-level education has, in principle, been compulsory for children aged 6 to 12 since 1876. Until 1950, there were three types of school: the primary school, offering elementary education (grades 1 to 6), the extended primary school (grades 1 to 8), and the more extended primary school (grades 1 to 10). Children were entitled to enroll in each of these schools at age 6. Most primary schools had a kindergarten for children aged 5. In addition, a few evening courses were offered for vocational and professional training, including teacher training.

The requirements of the economy, and above all the growing demand for education, have resulted in a tremendous increase in enrollment and the establishment of various types of school at the secondary level since 1950. Total school enrollment rose from 37,000 in 1950 to 135,000 in 1970 (see Fig. 1). The decrease after 1975 was due to migration to the Netherlands. The present educational system (Fig. 2) originated from, and is modeled on, that of the Netherlands. Formal education at all levels became free in 1976.

Preschool education, now included in all primary schools, is offered to children aged 4 and 5; the enrollment rate was 65 percent in 1980. Primary education, lasting six years with entry at age 6, is almost universal in the coastal areas where the participation rate is 90 percent. Special education is provided in special classes at some primary schools and at special institutes. Secondary education at junior and senior levels is offered in a variety of schools.

The University of Suriname, established in 1968, has five faculties: law, medicine, social and economic sciences, engineering, and natural resources. With 1,500 students in 1981, enrollment in the university has increased by 100 percent in five years. The Higher Institute for Teacher Training offers two- to five-year courses, mostly evening courses, qualifying teachers to teach in second-level education. In 1981, approximately 1,200 students were enrolled in the institute.

Primary and junior-secondary schools are distributed among almost all populated areas. Settlements in the interior, however, have only primary schools. Most junior-technical and vocational schools, all senior-secondary schools, the university, and the Higher Institute for Teacher Training are located in Paramaribo.

According to the 1980 population census, 34 percent of the total population participated in formal education (the figure was the same in 1970), of which 71.9 percent was in primary, 24.6 percent in secondary, and 3.5 percent in higher education. Table 1 presents the enrollment of pupils and teachers by level of education.

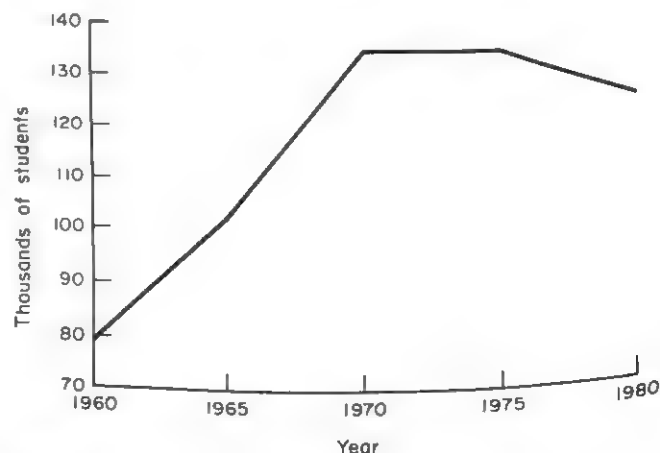


Figure 1
Primary and secondary-school enrollment 1960-80

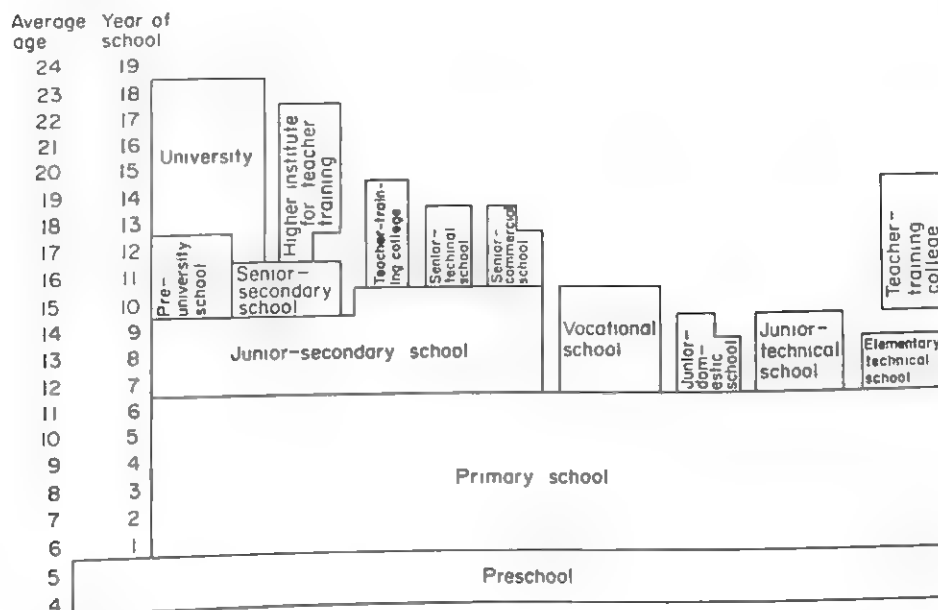


Figure 2
Structure of the educational system

Significant sex differences in enrollment do not occur, except in special education.

1.2 Nonformal Education

Nonformal education is provided from a wide variety of public and private sources. The government's efforts in this field have been intensified since the coup d'état in 1980. A nationwide literacy program, launched in 1981 by the Ministry of Education and Sciences, is directed at all illiterates above 12 years of age (19 percent of the population over 12). Literacy programs are also carried out by the Summer Institute of Linguistics, a private foundation. Skill training and on-the-job courses are offered by the Ministries of Labor and Social Affairs, Natural Resources and Development, Public Works and Telecommunications, each having their own training centers. The Ministry of Agriculture provides courses in fishery and agricultural extension services in

rural areas. All four trade-union federations established their own education centers between 1975 and 1980.

2. Administrative and Supervisory Structure

There are both public and private schools at primary and secondary levels. Some 58 percent of enrollments are in private schools, most being denominational and administered by a religious body, that is, Catholic, Protestant, Hindu, or Moslem. Except for a very small portion of administrative costs, private schools are subsidized completely by the government. All schools, public and private, operate under the jurisdiction of the Ministry of Education and Sciences, headed by a minister of cabinet rank. The ministry is divided into four main divisions: supervision, finance and administrative services, technical services, and developmental services. Each is headed by an assistant director, report-

Table 1
Student enrollments and teachers by level and type of education 1981^a

Level and type of education	Student enrollment	% male	Teachers	Pupil: teacher ratio
Preschool	15,946	51	620	25.7
Primary	75,682	52	2,950	25.7
Junior secondary	28,082	49	1,579	17.8
Senior secondary	6,081	44	416	14.7
Higher education	2,726	53	176	15.5
Special education	1,106	65	154	7.2
Total	129,623	51	5,895	22.0

a Source: Ministry of Education and Sciences, Planning and Research Unit, 1982; Institutes for Higher Education 1982

ing to the director of education. All divisions operate on a central basis from the capital city, where the ministry is located, except for the supervision division which is decentralized to the district level. In addition to their supervisory role, district inspectors arrange for and coordinate other services for schools in their areas. The schools (public and private) are arranged in school clusters (6 to 12 schools) within each district to facilitate the provision of facilities and professional guidance and supervision.

3. Finance

Education, including private schools run by religious bodies, is almost entirely financed from the recurrent budget of the Ministry of Education and Sciences. Various technical ministries, the Ministry of Labor, and some private institutions and industries also provide education and training. It is difficult, however, to determine the educational expenditure of these bodies.

Recurrent expenditure of the Ministry of Education and Sciences has increased rapidly since 1975. Its amount (at 1982 prices) increased by a factor of 2.3 between 1976 and 1982, while as a proportion of the gross national product (GNP) it rose from 5.8 to 8.3 percent. The ministry's budget was \$f58.6 million in 1976 and \$f133.8 million in 1982.

In addition to increased unit costs at all levels, this trend results mainly from expansion at secondary level through conversion of the two-year extended primary school (academic course) to the four-year vocational oriented school.

At 8.3 percent, education represents an unusually high proportion of GNP. That it received only 23 to 25 percent of the total government budget is due to the fact that the government's budget accounts for as much as 28 percent of GDP.

According to a UNESCO study (1978), the percentage breakdown of recurrent expenditure of the Ministry of Education and Sciences was: administration 4.8; first level, including preschool 39.5; second level 30.6; third level 5.4; nonformal education 5.5; special education 1.2; scholarships 4.2; and supporting services and miscellaneous 8.8 percent. The capital budget for education is not a part of the ministry's budget, instead, it is included in the budget of the Ministry of Public Affairs. Capital investments are financed mainly from the Dutch and European development funds.

4. Supply of Personnel

At first- and second-level schooling, the overall teacher-pupil ratio is relatively low (see Table 1). While the supply from teacher-training colleges is sufficient to keep up with the demand for new teachers, one-third of the teaching force at primary level and approximately

50 percent at secondary level is not fully qualified. The supply at senior-secondary and higher levels continues to come from external sources (The Netherlands and Belgium).

There are three types of teacher-training colleges:

- (a) The A-level teacher-training college is a four-year course after two to three years' junior-secondary education, qualifying graduates for preschool and primary teaching (grades 1 and 2).
- (b) The B-level teacher training college is also a four-year course. Entry requirement is the certificate of the four-year junior-secondary school (academic course). B-level teachers are qualified to teach in primary schools.
- (c) The Higher Institute for Teacher Training offers two- and five-year subject-oriented evening courses which qualify teachers for the junior- and senior-secondary levels respectively. The entry requirement is a B-level qualification or another senior-secondary certificate.

There are also evening courses for A and B levels and for a special education teacher qualification, thus providing upgrading opportunities for unqualified teachers. The department of guidance (part of the Division of Developmental Services of the Ministry of Education) offers inservice courses to teachers at all levels.

5. Curriculum Development and Teaching Methodology

With the establishment of the division of development services in 1980, an infrastructure was created for curriculum development and related activities. Project groups consisting of education officers and teachers from public and private schools update and reform the curricula of different types of secondary school. A major project is the primary-education curriculum reform consisting of three interlocking and successive programs, namely:

- (a) An inservice teacher-training program to make teachers receptive to change and to develop particular skills in them, e.g., curriculum development and classroom management. In 1982 a network of 12 change agents (education officers) and 70 selected teachers acting as field change agents were operational.
- (b) Development of new syllabi through nationwide discussions and hearings among teachers. A start has been made with this program.
- (c) Development of curricula and teaching/learning materials for all subject areas, including creativity and civics.

6. Examinations, Promotions, and Certification

Final examinations in all school types at the first and second levels as well as entrance examinations to secondary schools are arranged and administered by the Bureau of Examinations. Tests are developed annually by committees that include bureau officers and teachers. Certificates issued by schools are hallmarked by the authorities. Promotions within each school type is decided on results of school-based tests and examinations.

7. Educational Research

Educational research as such has not been institutionalized, though some descriptive studies have been published on different aspects of the system by different sources. The Planning and Research Unit of the Ministry of Education and Sciences carries out surveys and action research types of studies which are closely related to the development and management of the educational system. In connection with the multilingual character of the society and the problems this poses for education, a five-year research project, "Language and language behavior as a function of the multilingual society," was initiated in 1978. This project is carried out at the university in cooperation with external experts.

8. Major Problems

Curricular reform at all levels has been identified as the most urgent problem. Courses are too academic, not sufficiently oriented to real life, and the specific needs of the nation, while teaching practice has still not caught

up with new developments like child-centeredness and inquiry- and experience-based learning.

Curriculum-development projects and intensification of school guidance efforts are expected to bring about changes. Reform of the educational structure at the junior-secondary level towards a comprehensive type of schooling is also necessary. The expectation is that the ministry's division for development services will be sufficiently staffed with competent officials in the near future to tackle these and other problems.

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Swaziland

I. M. Maimbolwa-Sinyangwe

The Kingdom of Swaziland is the smallest country in Southern Africa, with a length of 193 kilometers north to south and a width of 145 kilometers east to west. The nation is surrounded by the Transvaal and the Natal Provinces of South Africa, except in the northeast, where the country borders on Mozambique for a distance of 97 kilometers. Swaziland's four geographical regions are the Highveld, the Middleveld, the Lowveld, and the Lubombo. The capital city of Mbabane is situated in the mountainous Highveld. The Middleveld and Lubombo are at somewhat lower altitudes (610 to 762 meters), and the Lowveld is a region of bush vegetation at altitudes from 152 to 305 meters. The climate is temperate in the highlands and subtropical in the lowlands. The population of the country was estimated at 605,000 in 1983. Nearly half of the population lives in the Middleveld which has some of the best soils in Swaziland.

Swaziland became a British High Commission territory in 1907 and remained such until gaining independence in 1968. Executive authority is vested in the king and exercised through a cabinet presided over by a prime minister. The country is divided into chiefdoms, each of which elects two members to the electoral college. In each of the nation's four regions, a council made up of members of the college is responsible for implementing government policies.

The nation's economic base is principally in agriculture, in which 75 percent of the labor force is engaged. In 1980, sugarcane provided 46 percent of Swaziland's export earnings (Europa 1982). Swaziland is also rich in minerals. Coal and other minerals are mined. The mining industry employs 4,000 people.

In religion and official language, the country reflects its colonial background. Around 60 percent of the population are Christians (Protestants and Roman

Catholics), while the remainder adhere to traditional African beliefs. The official language is English, although a large portion of the population speak Siswati, a Bantu language related to Zulu.

Western education was introduced in Swaziland around the beginning of the twentieth century by missionaries, with the colonial government later becoming involved as well. Schools were developed along ethnic lines—separate schools for Africans, for Europeans, and for Euro-Africans. By midcentury a large number of the schools for Africans were limited to a four-year primary course, which later was extended to six years. Although enrollments grew over the decades, by the 1950s more than half of school-age African children still did not attend school, and more than half of the teachers were untrained (Pott 1955). The period between the close of the Second World War and the attainment of independence witnessed a more rapid increase in educational opportunities. Whereas only 11,360 pupils attended 207 primary schools in 1945, there were 62,108 attending 358 schools by 1968. Over the same 23-year period, secondary-school enrollment increased from 318 to 6,162 students.

Since independence, the government has set a goal of eventually providing basic education for the entire population. While the goal had not yet been achieved by the early 1980s, progress was being made. Over the 11 years from 1969 to 1980, the number of primary and secondary schools together had grown by 30 percent, pupils by 90 percent, and teachers by 112 percent. In 1980, over 112,000 pupils attended 450 primary schools and 23,000 students attended 82 secondary schools; a large proportion of the schools were operated by private organizations. Both enrollment figures and the number of schools have continued to increase. By 1983, there were 129,767 pupils attending 468 primary schools and 27,001 students attending 89 secondary schools.

1. Structure of the Educational System

In the early 1980s, the primary course extended from grade 1 through grade 7. Although most children enter school at age six, many who graduate from the primary grades are older than age 12, because of a high incidence of repeating grades, a condition of concern to the Ministry of Education since grade repeaters occupy school places needed by children not yet in school.

Secondary education extends from form 1 through form 5. The dropout rate in secondary schools is high, chiefly because of students performing poorly in academic work or lacking the funds to pay school fees.

While primary and secondary schools existed long before independence in 1968, not until 1970 was the Swaziland Community Preschool Program started. The objective of the program has been to provide supervision of children aged three to six while their parents are working either at home or away from home. By 1980, there were 64 preschools located in rural and urban areas. This number was grossly inadequate to

care for the number of children who potentially could profit from preschool opportunities, but expansion of the program was limited by the shortage of facilities and trained personnel (Swaziland, Ministry of Education 1980).

At the top of the schooling hierarchy is the University of Botswana and Swaziland, which serves the needs of both nations, Botswana and Swaziland, but is located in Swaziland. From 1964 until 1975, higher education for Swaziland and its close neighbors was provided by the University of Botswana, Lesotho, and Swaziland, which was located in Lesotho. However, when Lesotho withdrew from the coalition, the institution was transferred to Swaziland where it continued to offer degrees in such fields as science, humanities, education, and economics. In 1980, the enrollment was 885 (Europa 1982). In 1982, the figure increased to 1,064 with 113 instructors (Europa 1985). Students who wish to study in such areas as engineering and medicine enroll in institutions in other African nations or overseas.

2. Administration

All schools, colleges, and the university operate under the jurisdiction of the Ministry of Education, which is headed by a minister and deputy minister. Subordinate to these political appointees is a permanent secretary, who is in charge of an undersecretary of general administration and a director of education, the latter supervising the actual operation of the schools. The chief inspectors for primary schools and secondary schools direct the activities of the inspectors in individual subjects who visit the schools to monitor the quality of teaching.

3. Curriculum Development

Curricula are designed by primary and secondary units within the Ministry of Education. At the primary level, the course of study includes such conventional academic subjects as mathematics, science, social studies, English, and Siswati. Because pupils who drop out of school with only this type of academic training have difficulty finding suitable employment, educational planners have been introducing such practical studies as home economics, arts, and crafts. The ministry has endeavored to acquire more qualified curriculum designers to devise methods and materials that will ensure that practical subjects are taught as effectively as academic ones.

In the secondary schools the same array of academic subjects are taught as in the primary grades, but at a higher level of complexity. Such technical subjects as woodworking, metalworking, agriculture, and commercial studies (typing, bookkeeping) have been offered in order to fulfill the government's goal of furnishing the personnel the country needs to carry out its development plans.

4. Examination System

The educational system includes three major examinations in the 12-year primary and secondary sequence. The first, given at the end of the primary course, earns the Swaziland Primary Certificate. The second, for the Junior Certificate, is given at the end of form 3. The third, for the Cambridge School Certificate, comes at the end of form 5. At each level, as in many countries following the British educational pattern, many students leave the school system because they either fail the examination or else do not qualify for the limited number of openings at the next level. The most serious cause of such dropouts is the shortage of facilities at the upper levels.

Those who drop out may enter some sort of vocational training or perhaps find jobs, but a great many remain unemployed because the schools' academic curriculum has not prepared them with skills beyond those they would learn in traditional farming pursuits or in common laboring jobs that require no formal training.

Although there are an increasing variety of adult education classes for school leavers who wish to acquire practical skills, most vocational classes last no more than six weeks, a period usually too short to equip enrollees with skills that lead to employment. The largest number of participants in these courses have been women. The provision of such vocational training centers has been seriously limited by a shortage of financial resources.

5. Teacher Training

The first teacher-training course in Swaziland was introduced at the Nazarene Mission in 1936, and the second, at William Pitcher College, was established in 1962. The two colleges now offer two-year training programs for primary-school teachers, with candidates from among holders of junior secondary school certificates. William Pitcher College also offers a two-year course for lower-secondary teachers. In 1981, there were 538 students enrolled at the colleges and 65 instructors. Additional secondary-school teachers are graduates of the University of Botswana and Swaziland, which offers a four-year degree program. Courses for preparing teachers of technical subjects in secondary schools, begun in 1973, had graduated an average of only six teachers a year by the early 1980s, which is far too few to fill the need. Thus, there continues to be a shortage of technical teachers in the country's secondary schools. There are, however, three institutes for technical and vocational training which had in 1981 901 students and 71 teachers (Europa 1985).

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Because there continues to be a shortage of local instructors for secondary schools, Swaziland still recruits expatriates to fill positions for which Swaziland teachers are not prepared or which they have vacated in order to take more attractive employment in other sectors of the job market.

6. Major Problems

A main concern for the Ministry of Education is to redesign the curricula of both primary and secondary schools so that students learn skills suited to a culture that is undergoing modernization. A related concern is that of equipping teachers to implement the new curricula. In preparation for these tasks, the ministry has already sent local educators abroad for training in curriculum development and has established courses within the country for training teachers of new subjects, such as those in technical fields.

A second problem linked to the nature of the curriculum is that of effecting a good match between job openings and the skills students possess as they leave the school system at the end of the three main levels—grade 7, form 3, and form 5. To solve this problem, educators in charge of both curriculum development and the school-leaving examinations need to work closely with government planners who estimate the numbers and types of workers needed in the evolving labor market. Or, if the skills needed for the labor market cannot be predicted with accuracy or adequately taught in the schools, then flexible nonformal vocational courses suited for school leavers and offering sufficient training for current labor needs might fill the existing gap between the preparation of school leavers and the skills called for in the job market.

The solution of these problems, as well as the expansion of educational opportunities to provide universal education, will depend heavily on the availability of funds to support educational development. At present the country is unable by itself to provide all the funds that are invested in the educational system, and so it must continue to receive financial assistance from international aid organizations and individual nations. However, external aid is limited and cannot be expected to fill the need. Consequently, unless Swaziland's economy experiences an unexpected rate of growth in the near future, further educational progress in the nation is bound to come slowly.

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Sweden

S. Marklund

Sweden is a country in northern Europe with an area of 450,000 square kilometres (17,375 square miles). Its north–south length is 1,650 kilometres. Its present boundaries were fixed in 1815. Its population has increased from nearly 2.5 million inhabitants in 1800 to 5.1 million in 1900 to 8.3 million in 1980. The birth rate has been low since the 1920s. However, this has been counteracted by an increased average length of life and, recently, increased immigration.

The population density is low, with only 20 inhabitants per square kilometre. Today, most people live in cities; the biggest concentrations are in Stockholm, Göteborg, and Malmö and their surrounding areas. The country has vast areas which are sparsely populated, predominantly the inland of the northern half.

Ethnically, the population was homogeneous until the 1950s. Small national minorities are the Lapps in the north (numbering approximately 15,000) and a Finnish-speaking population along the northeastern boundary (approximately 55,000). The remainder, excluding some small groups, have formed the Swedish majority population with Swedish as their national language. The dominant religion is that of the Lutheran state church. Since 1950, however, immigration has exceeded emigration. Immigrants and their children now number one million and they live almost exclusively in the cities. Half of them have come from Finland and smaller groups from Denmark and Norway. Large groups have also come from southern Europe and Turkey and their mother tongue is not Swedish. This has affected the school system considerably. Swedish as a foreign language was introduced as a school subject in 1974. Nearly all immigrant students are also taught their "home language" at school and provided with special study guidance and vocational orientation in that language.

The economically active population numbered just over 3.5 million in 1975. The percentage break down by type of industry is shown in Table 1. Since the early 1970s the number of employees in manufacturing and

mining has decreased slightly and employees in health, social services, and education have increased.

The social structure of the population is the same as in most industrialized countries. Postwar government policies on labour, salaries, and general welfare have resulted in considerable equalization and overlapping of socioeconomic classes. The differences in disposable income and working conditions seem to be smaller than in any other country.

Sweden's imports exceed its exports. Oil and machinery are major imports. Machinery is also a major export. Other important exports are forestry products, cars, and iron and steel.

Sweden has a constitutional monarchy with parliamentary representative democracy written into its constitution. Universal suffrage was introduced in 1908 for men and in 1919 for women. In local political elections, immigrants have the right to vote in the district in which they live. Elections are held every third year.

A circumstance of significance for reform activities in general has been Sweden's political stability. The dominant political party has been the Social Democrats. Between 1932 and 1976, they were in power practically without interruption. By and large, the same political situation has prevailed in local government. Political stability has had its parallel in a comparatively conflict-free labour market. Strikes have occurred relatively infrequently. Unemployment has been low and in 1983 was 3 percent of the labour force.

An additional factor of importance has been the growth of material prosperity. Using a conventional yardstick such as the gross domestic product (GDP) per capita, Sweden is now one of the richest countries in the world. If material prosperity has facilitated educational reforms, it has also improved social-welfare standards. Through social-welfare legislation, there are now high standards for all in such matters as unemployment insurance, basic old-age and supplementary income-related pensions, public health and medical care, and child and housing allowances. The reforms in the educational system from preschool to higher education are part of this welfare programme. For everyone it includes such benefits as free schooling and higher education, free school health, school meals, transportation and teaching materials, study grants, and interest-free study loans during study time.

1. Goals of the Educational System

In 1950, the Swedish parliament decided upon a general strategy for the future development of the whole school

Table 1
Percentages of workers in types of industry

Industry	%
Agriculture, forestry, hunting, and fishing	6.4
Manufacturing and mining	29.9
Construction	7.9
Commerce	19.9
Transport, storage, and communications	7.2
Services	28.4

system. The main objective was to raise the general level of education. The period of compulsory schooling had to be lengthened. At the same time, there was a desire to "democratize" the school system, by improving educational opportunities for previously underprivileged groups and by replacing the system of parallel schools at secondary level with a comprehensive system, thereby creating greater equality of educational opportunity. Furthermore, there was a desire to bring about pedagogical innovations in the internal operations of the schools. Practical training was to receive equal status with theoretical ("academic") training. These objectives comprised both a social and an educational programme.

After a 12-year period of experimental activities throughout the country, a new school structure was finally decided upon in 1962. In the school laws, statutes, and central curricular guidelines, the development of the individual student according to his or her inherent aptitudes is pronounced as the first and major goal of education. The second general goal puts society at the centre: school is to educate the individual for participation in the affairs of society, for productivity, and for social usefulness. The third goal, perhaps the most heterogeneous, concerns the handing-down from the older to the younger generation of traditions and values—the cultural heritage. In interpreting these goals, equality and justice are the due of everyone, regardless of social, economic, ethnic, and geographical conditions.

2. General Structure of the Educational System

Since 1962, a nine-year compulsory comprehensive school (*grundskola*) has been introduced all over the country. In 1971, an integrated upper-secondary school (*gymnasie-skola*) was likewise introduced throughout the country, comprising academic, general, and technical-vocational education within the same organization. The preschool structure was reorganized in 1967 and 1975, adult education in 1967 and 1971, and higher education (universities and corresponding tertiary institutes) in 1975 and 1977.

Thus the traditional stages of preschool, primary school, secondary school, and vocational school have now been restructured as precompulsory, compulsory, and postcompulsory (see Fig. 1). Typical is the very inconspicuous part played by private schools. The Education Act (1962) does not put any obstacles in the way of private persons or groups wishing to provide their own education for their children. They can also receive the same state grants as the regular municipal schools (about 50 percent of the total costs), provided that they follow the governmental school statutes. Municipal authorities, however, are obliged—according to these statutes—to ensure that all children of school age receive a nine-year education, and, in general, they are not willing to subsidize private schools in addition to their own public schools. Little use is therefore made of the liberty to establish private schools.

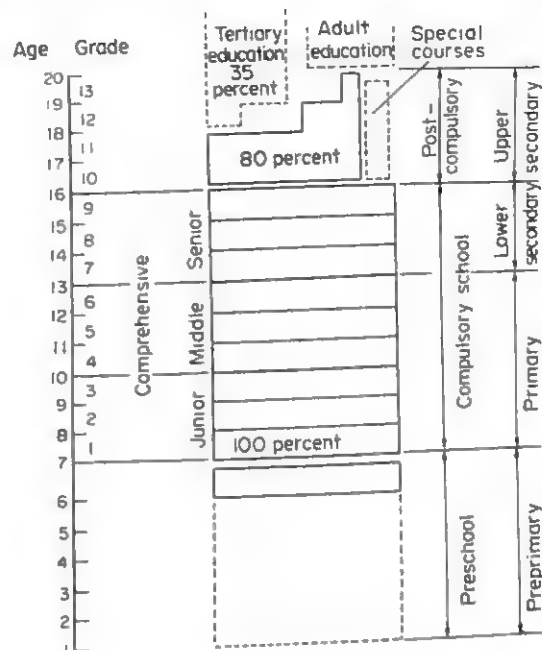


Figure 1
Structure of the educational system

Practically all children aged 7–16 years attend the *grundskola*. The private-school population is estimated to be less than 1 percent. The school year starts in late August and ends in mid-June. It encompasses 40 weeks. Five days of the school year can be organized by the local authorities as "study days", when the teachers meet for planning and inservice training.

The maximum class size is 30. The mean size in 1980–81 was 22.6 in the compulsory schools and 24.0 in upper-secondary schools. As a result of the many possibilities that now exist for working with small groups or individuals, the student-teacher ratio is much lower, about 15 in compulsory schools and 13 in upper-secondary schools.

2.1 Precompulsory School

The establishment of day homes, nursery schools, kindergartens, and corresponding preschool-care institutions has predominantly been seen as a social-welfare enterprise. Centrally and usually also locally, preschool institutions are managed by the boards of health and social welfare and not by the boards of education. Compulsory school does not start until the age of 7. An earlier start has long been discussed. In 1973, parliament decided to retain 7 as the starting age, but also that preschool should be available for all children of 6 ("common preschool year"). However, an earlier school start is now again being investigated by a governmental committee.

The treatment of preschool care and education as primarily a social question has given Swedish preschool institutions some specific features. They are run mainly

Table 2
Children in day homes and nursery schools 1981

Age (years)	Day homes (full-time)	Nursery school (some part-time)
0-4	87,800	2,300
5	27,500	14,300
6	26,600	79,000

by municipal authorities. They have a low child-adult ratio (seldom more than 6 or 7). They also have a special responsibility for children with difficulties and special needs (for instance, immigrant children).

The responsibility of the local municipalities for pre-school care and education was not made law until 1967. The establishment of preschool institutions has come late and is so far incomplete. The statistics in Table 2 are from 1981. These figures should be seen in relation to the birth rate in Sweden, which in recent years has been about 100,000 per year.

The same local authorities also run recreation centres (*fritidshem*) for 7-12-year-olds, where children spend a few hours each day, mostly after school. In 1981, these had 40,900 children aged 7-9 years and 5,600 children aged 10-12 years.

2.2 Compulsory School

Until 1962, Sweden had a seven-year compulsory elementary school (*folkskola*). It was replaced by the nine-year *grundskola*, on an experimental basis from 1950 and on a permanent basis from 1962. How the old system of elementary school and a number of parallel junior-secondary schools was substituted by a new nine-year compulsory comprehensive school can be seen in Fig. 2. Since 1972, there have been no separate secondary schools before the postcompulsory stage.

The nine-year comprehensive school has two three-year stages of primary education (grades 1-3 and 4-6) and a third lower-secondary stage (grades 7-9). English

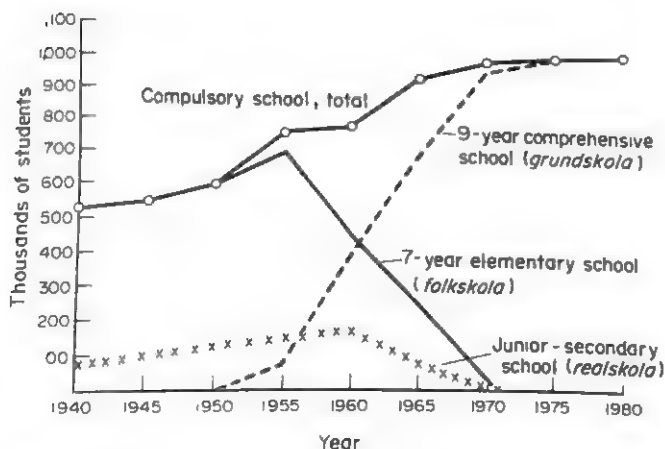


Figure 2
Development of the nine-year comprehensive school

is compulsory during grades 3-9. Grades 1-6 usually have class teachers. Grades 7-9 have specialized teachers. In grades 7-9, the students have a common course for all but 10-15 percent of the time when they have elective subjects, either a second foreign language or extra courses in their general subject. Regardless of electives a complete nine-year school course qualifies pupils to study in the upper-secondary school.

2.3 Postcompulsory School

As a consequence of the introduction of the nine-year comprehensive school a new type of postcompulsory upper-secondary school has developed (see Fig. 3).

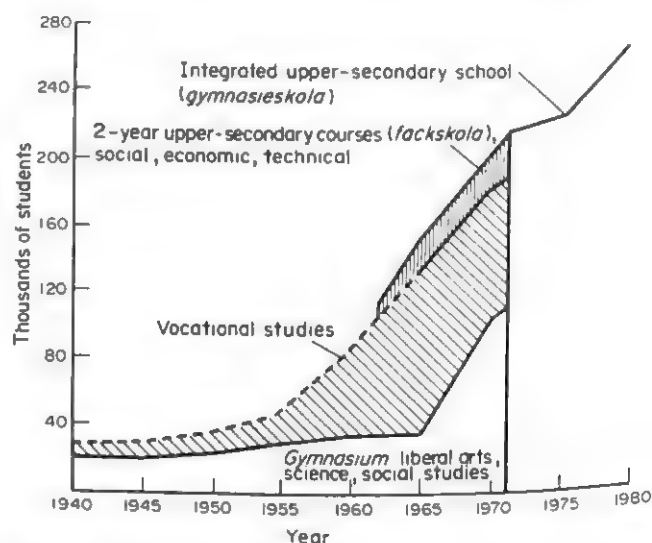


Figure 3
Development of the integrated upper-secondary school

Vocational education grew rapidly during 1955-65. Beginning in 1962, a new type of voluntary two-year upper-secondary school (*fackskola*) was introduced. In 1971, all types of upper-secondary school were brought together into an integrated upper-secondary school (*gymnasieskola*). As an official national school this seems to be unique in the world. The aim is to give equal status to academic, general, and technical-vocational education at this level: general academic education should be "vocalized" and technical-vocational education should be "generalized". This process, which is still going on, has had many repercussions on adult education, higher education, and recurrent education from a lifelong perspective.

The integrated upper-secondary school has three main sectors of study, one for arts and social subjects, one for economics and commercial subjects, and one for scientific and technical subjects. In each one of these three sectors, there are academic, general, and vocational courses. These are of different lengths, from half a year to four years (see Table 3). The majority of students take one of 22 tracks. One of these tracks is four years, four are three years, and the remaining 17 tracks are two years. The rest (6 percent) do not take

Table 3

Two-year, three-year, and four-year tracks (and special courses) in the upper-secondary school, by sector, according to the 1970 central curriculum

Arts and social subjects	Economics and commercial subjects	Scientific and technical subjects
2-year tracks consumer studies nursing ^a social ^a music ^a (experimental)	2-year tracks distribution and clerical studies economics ^a economics ^a	2-year tracks ^b
3-year tracks ^a liberal arts social sciences	3-year tracks ^a economics	3-year tracks natural sciences
— special courses	— special courses	4-year tracks technical — special courses

^a Mainly theoretical studies ^b In clothing manufacturing, building and construction, electrotechnical, motor engineering, agricultural, food manufacturing, processing techniques, forestry, woodwork, workshop, and technical

any of these tracks but so-called special courses for more narrowly restricted vocations. The special courses vary from half a year to four years.

The traditional preuniversity tracks are no longer the most popular. The nursing, electrotechnology, and agriculture tracks now get the students with the highest marks from the nine-year comprehensive school.

In principal, the students enjoy a free choice of track in the upper-secondary school. The school has places for all who finish the compulsory school, and about 90 percent of them continue with upper-secondary training. But, because of limited availability of places in certain tracks, the students cannot always get their first choice. Whenever the number of applicants exceeds the supply of student places, admission preference is accorded on the basis of marks earned in comprehensive school and other qualifications, for example, experience of the job world. The students' preferences are strongly influenced by the labour-market situation. Most tracks have subdivisions. The way this principle works is illustrated in Fig. 4 showing the structure of the two-year workshop track, the three-year economics track, and the four-year technical track.

Dropout used to be a problem in the traditional Swedish secondary school. In the nine-year compulsory school this has now been eradicated, although 7 or 8 percent of the students end with an "incomplete" final grade. In the integrated upper-secondary school, about one-quarter break their courses. Increasingly, nowadays, more than half of them return later to upper-secondary or adult education to complete their courses or take other courses. In the context of recurrent and lifelong learning the concept of "dropout" is now being redefined.

2.4 Higher Education

For a long time, university entrance was based on the

requirement of a *studentexamen*, a secondary-school certificate for admission to any of the faculties. Regulations were waived in the early 1950s, which made it possible for certain other groups, in limited numbers, to begin university studies.

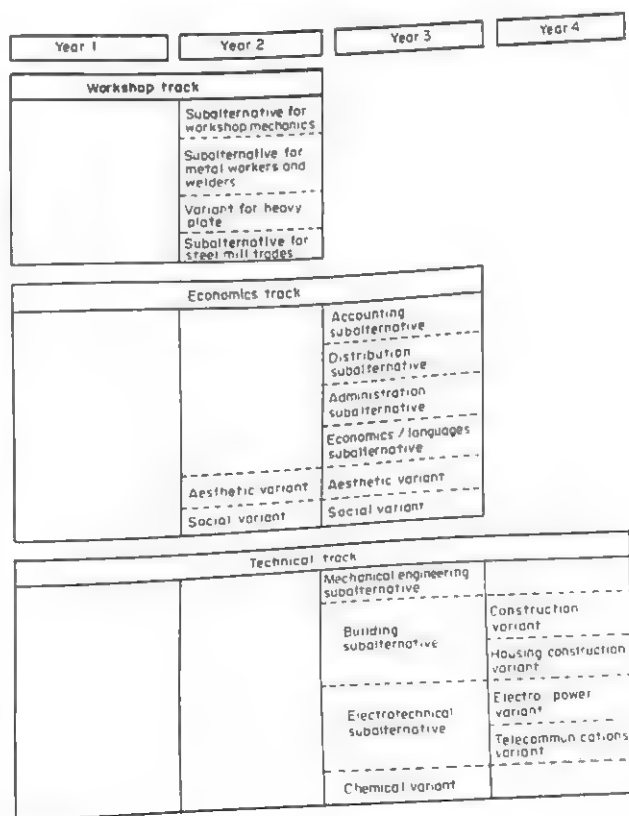


Figure 4
Subdivision of tracks: three examples

In 1972, parliament approved a set of new principles for the selection of students for higher education. Every study track in the upper-secondary school (in some cases after supplementary studies in Swedish and English), as well as other studies with equivalent aims and course lengths, fulfils the general admission requirement for higher education. A person who is at least 25 years old and has at least four years of occupational experience, regardless of schooling, also fulfils the general admission requirements—expressed as knowledge equivalent to upper-secondary school courses in special subjects—for various programmes in higher education courses. The new rules mean that, in principle, every adult is formally entitled to begin higher studies, and the contemporaneously expanded system of adult education provides opportunities for most people to acquire the knowledge required for higher education.

The median age of those accepted into high-status study programmes has risen noticeably. Student bodies generally appear to have become more heterogeneous. The reformers' dream of reaching entirely new categories of student and of getting more students from the working-class population has, however, not been realized to the extent hoped for.

In 1975, parliament approved general principles for the new higher education system. Undergraduate studies are now organized in study programmes grouped into five sectors (technical, administrative-economic-social welfare, medical-paramedical, teaching, and cultural-informational), as well as in single courses. Efforts to create greater diversity in available undergraduate programmes are an important part of a policy which aims at reaching new categories of student. Technical-vocational higher education was established, with courses running for one and a half to two years and intended for skilled workers. Development of the content and structure of study programmes has been a necessary complement to the new admission rules for reaching new categories of student.

For centuries Sweden had only two universities: Uppsala, founded in 1477, and Lund, founded in 1668. Institutes of higher studies in Stockholm and Göteborg were reorganized into universities during the 1950s and 1960s. An annex to the University of Stockholm was created at Linköping, one to Göteborg at Karlstad, one to Uppsala at Örebro, and one to the University of Lund at Växjö. The basic idea of these annexes was to relieve the pressure on student housing and teaching premises in the university towns. The most popular subjects within the faculties of humanities (social sciences and mathematics/natural sciences) were offered at the branch campuses. The university annex at Linköping was in 1970 organized as an independent university.

As early as the 1950s, regional development policy has been taken into account in planning higher education. North of Uppsala—within an area covering more than two-thirds of Sweden's total area—there were no resources for higher education and research.

The first faculties were established at Umeå. A university was established there in 1963. In 1971, an institution of higher education was also founded at Luleå, in the far north, to provide technical research and education.

Since 1977, higher education has included state-run institutions of higher education in 14 towns in addition to those 7 which had already been allotted resources. With two exceptions, each of these towns already had postsecondary schools or professional colleges of various kinds (university annexes, teacher-training colleges, schools of social work and public administration, pre-school teacher-training institutes, etc.). The purpose of this structure is to allow local, regional, and national needs, both individual and social, to be considered together in planning.

The country is divided into six higher education regions, each with a regional board of governors, responsible for the regional planning of higher education. In 1980, the Swedish universities and other tertiary training institutes had 158,000 students, of whom 86,000 were women.

2.5 Nonformal Education

Nonformal education exists mostly at the postcompulsory level and in Sweden is classified as adult education. This is of three types: popular-movement education, municipal adult education, and labour-market training.

The first folk high schools were founded in 1868. There are now more than 100 folk high schools. They are run by county councils, popular movements, other organizations, or special associations. Their objective is to provide a general civic education, with the special aim of giving students an insight into their responsibilities as human beings and as members of society. Each school designs its own programme. Folk high schools try to meet educational needs not fulfilled by the regular schools.

There are 10 nationwide adult-education associations that operate study circles entitled to state grants. These associations have links with various organizations and popular movements, for example, blue-collar and white-collar trade-union movements, political parties, and churches. The adult-education associations collaborate with libraries, folk high schools, and other cultural institutions. Their study circles cover a broad range of subjects. These subjects vary considerably from one association to another. In 1980, nearly two million people participated in study circles.

In 1967, parliament decided that the local school authorities should be responsible for providing opportunities for adult education. The number of adult students grew quickly after that. From 1971, more than 200,000 people have participated in such programmes every year, that is, as many as are trained in the regular upper-secondary schools. Municipal adult education aims at providing preparation for continued studies or for an occupation. About 30 percent of the participants

Table 4

Primary- and secondary-school costs in selected years, with 1950-51 as base year

Years	Costs		GDP	Costs as percentage of GDP		
	Total	Per student		State	Municipality	Total
1950-51	100	100	100	1.3	1.0	2.3
1958-59	185	140	124	2.0	1.6	3.6
1966-67	301	227	180	2.5	1.7	4.2
1974-75	432	278	238	2.8	2.5	5.3
1979-80	640	411	242	3.6	3.6	7.2
1982-83	631	401	241	2.8	3.0	5.8

are taking comprehensive-school courses, 40 percent are in upper-secondary courses, and 30 percent are in special vocationally oriented courses. Municipal adult education is provided within all Sweden's 283 municipal districts. But regulations requiring a certain minimum number of participants per class result in a concentration of courses in larger population centres.

Labour-market training aims at providing vocational education to people who are unemployed or in danger of losing their jobs. It is sponsored by the National Board of Education (NBE) both at training centres and within the regular educational system. The main emphasis of labour-market training programmes is on manufacturing operations. Every employee is legally entitled to take a leave of absence from his or her job to pursue studies. They may then be eligible for a special adult-study grant. Students in labour-market training programmes receive training allowances. In 1982, some 40,000 people participated in labour-market training.

3. Finance

The extent to which school costs have increased recently can be seen in Table 4. For comparison purposes, figures for 1950-51 have been put at 100. Thirty-two years later, 1982-83, costs in a fixed currency had increased nearly six times (from 100 to 631). The increase can partly be explained by the increase of students. But even per student costs have increased from 100 to 401.

Since the 1950s Sweden's material wealth has also increased considerably (GDP from 100 to 242). But the costs for education have also increased relatively. In 1950, some 2.3 percent of GDP went to schools. Thirty years later it was 7.2 percent. It is said in parliament that this increase must now stop.

According to World Bank statistics, Sweden has the most expensive school system in the world. However, the World Bank's figures do not include costs for higher education and research and for this the Swedish figures are lower.

The annual cost for a student in 1980-81 was US\$3,960 in the compulsory comprehensive school and US\$5,050 in the integrated upper-secondary school. These costs are shared approximately evenly by the state and the municipality.

4. Curriculum

The major aim of the first six school years is to give the pupils basic skills in reading, writing, and arithmetic and a general social and science orientation. But already in grade 3 a foreign language (English) is introduced as a compulsory subject. Through a system of inservice training and additional teacher courses all primary teachers are formally qualified to teach English. This goal was achieved in 1970. The introduction of a foreign language in primary education has contributed remarkably to bridging the differences between primary and secondary education.

A comprehensive curriculum for the compulsory grades was introduced in 1962, still with many electives in grades 7-9. In 1969, all types of organizational streaming were banned up to the end of grade 9. Some 15 to 20 percent of the time in grades 7-9 (lower secondary) was allocated to electives, where the student could choose between a second foreign language (German, French, or home language for immigrants), technical subjects, economics, and art. The political goal, that everyone should be able to choose subjects freely in the upper-secondary school (grades 10-12 or 10-13), was achieved in 1970 but it was not until 1980 that the last restrictions disappeared. According to a parliamentary decision in 1980, the choice of postcompulsory training can be made independently of the choice of electives in the preceding compulsory education. This decision certainly implies a number of support activities in the upper-secondary school for students who did not start with academic subjects before the age of 16.

The upper-secondary curriculum is clearly streamed, but all streams and short courses have Swedish and physical education. Six of the streams are predominantly academic with more than 10 subjects in each. The majority of students in these streams study three foreign languages.

5. Teachers and Other Personnel

Before the extensive school reforms in the 1950s and 1960s, teacher training was clearly divided into two levels. Primary-teacher training was mostly conducted at the preuniversity level and was of an apprenticeship

type, with training in academic subjects and teaching practice. Secondary-academic teachers were trained at the postsecondary level, usually at universities and with a final preparatory pedagogical year (or half-year) to give a formal qualification for teaching. Teachers in arts, music, home economics, physical education, or manual instruction had special kinds of training somewhere in between these two types.

All types of training were placed in the tertiary education system during the reform period, that is, the same level for primary, secondary academic, and secondary nonacademic teachers. There has also been an attempt to equalize salaries and teaching conditions. Since 1977, most teachers have had the same formal academic status. However, they still differ in weekly duties and salaries, although less so than before.

Training usually takes 2 years for preprimary teachers, 2½ or 3 years for primary teachers, and 4 years (minimum) for secondary teachers. The training for teaching in the lower-secondary grades (7–9) usually qualifies teachers to teach two or three subjects. In the upper-secondary school (grades 10–12 or 10–13) teachers have only one or two subjects.

From 1952 to 1972, Sweden had a severe teacher shortage, due primarily to the introduction of an extended compulsory education and a broadening of postcompulsory education. Since 1972, there has been a fair balance between supply and demand of teachers. The numbers of teachers in Swedish schools in 1980 are shown in Table 5.

6. Educational Research and Development

In taking over the aggregate responsibility for implementing political decisions, the central educational agencies have resorted with increasing frequency to professional experts in education. The ranks of such expertise include researchers, teachers, and school managers. In this way the educational research and development work performed has been clearly linked with reform activity. This linkage can be seen as a component of the Swedish reform strategy.

Educational research and development in present-day Sweden is for the most part decision oriented. This

kind of activity has its origin, firstly, in the research programme that the governmental commissions had been pursuing since the 1940s and 1950s, and secondly, in the experiments with the nine-year comprehensive school that the NBE conducted between 1950 and 1962.

Since 1962, the NBE has been receiving a special research and development grant, of which about half is spent on research pursued at different kinds of university and college department. During the late 1970s and the early 1980s, the NBE has given priority to research and development themes about decentralization of decision making in education, development of instruments for local planning and local evaluation, training in basic skills, integration of handicapped students with regular education, reading and writing difficulties of adults, recurrent education, and adult vocational training. Most research projects are undertaken by research institutes at the universities and reported to the NBE. Special resources are used to improve the dissemination and use of research results, so far with varying success. From 1962 to 1980, the special research and development grant grew from US\$0.5 million to US\$7.2 million, which is equivalent to 60 percent of all the funds earmarked for educational research and development in Sweden.

By international comparison the relative size of this appropriation is fairly large. However, the fixed resources for educational research and development, consisting of researcher posts and research departments, are limited. The greater part of the variable resources are put at the disposal of the educational authorities, which decide orders of priority for research and development projects. A corresponding fund for research and development in higher education was established in 1969. In 1980, this was US\$3.9 million. However, the major part of this fund is not used for research but for development work and inservice training of university teachers.

7. Major Problems

An immediate problem in Swedish education is that the new compulsory and postcompulsory school systems have become very expensive. The costs have to be

Table 5
Teaching personnel 1980

Personnel	Numbers
Headmasters, deputy and assistant headmasters	4,800
Lecturers and other specialized secondary teachers	36,600
Specialized teachers in nonacademic subjects	27,600
Primary teachers, middle level	22,000
Primary teachers, lower level	22,000
Teachers in special education	11,600
Home-language and other part-time teachers	16,000
Total	140,600

reduced. The major reason for the increase of costs is the provision for teaching small student groups, that is, the lowering of the student-teacher ratio. And this is one of the effects of the comprehensivization of school education and the delay until students are 16 of their organizational differentiation into tracks of study. Classes have become more heterogeneous, which has necessitated smaller groups.

A more long-range problem is how to coordinate education and work from a lifelong perspective and how to organize a system of recurrent education. Such a system seems to be developing. Already in upper-secondary schools students are beginning to take breaks in their studies to work. Municipal adult education, mostly as evening courses and part-time schooling, increased greatly during the 1970s. Study circles now involve every fourth Swede. Conferences, on-the-job-training, and short courses in folk high schools also have increasing enrolments. Even the universities have become a place for recurrent education. More than half of those who enrol are now 25 years or older, taking restricted courses geared to their personal careers. Less than half of those enrolling at the universities aim at getting a full academic degree.

Some solutions to the problem of coordinating education and employment in postcompulsory education are already in the pipeline. A question, which in Sweden is seen as especially important, is whether a freely emergent system of recurrent education will bring society closer to the equality and democracy that have been the guiding stars in educational policy or whether it will constitute a new mechanism for social segregation and stratification.

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Switzerland

A. Gretler

Switzerland is a small country in the heart of Europe, covering an area of roughly 41,300 square kilometres or 15,945 square miles (about one-fourth of it being unproductive). Geographically, the country falls into three main parts: the Jura, the central plain, and the Alps. Rivers which have their sources in the mountains flow into the North Sea, the Mediterranean Sea, and the Black Sea. Founded in the year 1291 (with three cantons), Switzerland grew at different stages and found its present shape at the beginning of the nineteenth

century, after the Napoleonic wars (25 cantons; a 26th canton was established in 1978).

In 1980, the population reached 6,366,000 inhabitants; 945,000 (14.8 percent) are foreigners. With an average annual growth rate of 0.15 percent between 1970 and 1980, the total population figure is almost stable. There were, however, significant changes in different age categories in the 1970s: the number of preschool children (0-6), for instance, has diminished from 700,300 to 500,300, that is by 29 percent. On the

other hand, that part of the population aged 65 years and more increased from 714,500 to 881,900, representing 13.9 percent in the early 1980s. Average life expectancy, still rising, is 78.7 years for women and 72.1 years for men. Due to its geographical situation (its neighbours being the Federal Republic of Germany, Austria, France, Italy, and Liechtenstein), Switzerland is a multicultural and a multilingual country. Some 65.0 percent of the population speak German, 18.4 percent French, 9.8 percent Italian, and 0.8 percent Romance, the remainder being foreigners with other mother tongues. Concerning religion, 47.6 percent are Roman Catholics, 44.3 percent Protestants, and 7.5 percent without denomination, this latter figure having increased from 140,000 in 1970 to 478,700 in 1980.

Economically, Switzerland has followed the general evolution of European (and other) countries from an agrarian to an industrial and, finally, to a service-dominated economy. Whereas in 1800, roughly 65 percent of the active population were working in the primary sector, this figure had diminished to 6.1 percent by 1980; the corresponding figures for the secondary sector are roughly 25 and 38.9 percent (with a peak of almost 50 percent around 1965) and for the still growing tertiary sector less than 10 percent in 1800 and 55 percent in 1980. Along with this change of economic structure went a process of urbanization, and, by 1980, 42.6 percent of the population were living in towns with more than 10,000 inhabitants, 13.8 percent in communities with 5,000–10,000 inhabitants, and 43.6 percent in small localities (sometimes suburban) with less than 5,000 inhabitants. The Swiss economy depends heavily on exports, mainly of high-quality products (imports, however, normally exceed exports; in 1980, by 18.5 percent) and on a high proportion of foreign labour (18.4 percent in 1980). Women account for 36.3 percent of the total labour force. Per capita income in Switzerland at US\$16,440 in 1980 is one of the highest in the world.

Politically and administratively, the country is structured into three main levels: the confederation, the 26 cantons, and the 3,029 communes, each having its own legislative and executive political power. The modern state in its present form was founded on the basis of the Federal Constitution of 1848. The central government (federal council), formed by seven ministers, has in the past few years been a coalition representing the four most important political parties; it is characterized by great stability.

Legislative power at the federal level consists of two houses, the National Council (200 deputies representing 10 political parties) and the Council of States (46 deputies). Adopting a very simple right–centre–left model, it can be said that, in 1981, 142 deputies of the National Council belonged to the centre and the right, the other 58 representing the left. Neutrality in foreign affairs, a free market economy, and increasing social security are some salient points of long-term government policy. Decreasing interest and participation in votes and elec-

tions is one of the contemporary problems of the Swiss democratic system.

1. General Structure and Size of the Education Effort

Formal schooling started in the monastery schools of the Middle Ages with the purpose of ensuring that there were enough priests. From the twelfth century onwards, so-called “small schools” catered for the needs of the rising bourgeoisie, teaching languages, elementary mathematics, and geography. Schooling was intensified with the Reformation and Counter-Reformation, but the middle schools and Latin schools were limited to the cities, whereas schools in rural areas continued to be dominated by religious instruction. The Age of Enlightenment brought some liberation from this domination; and the teaching of mathematics and science was reinforced. In that period, Rousseau (1712–78), born in Geneva, developed his concept of education, and Pestalozzi (1746–1827), working as a practitioner and a theoretician of education, founded and directed his schools and wrote his books.

The nineteenth century—with the emergence of the modern state, the economic revolution, and the spread of new ideas—brought general compulsory schooling. It was generally recognized that education of the young generation was one of the most important public goals to be achieved. The cantons created school laws, established primary schools, and founded cantonal secondary schools (*Kantonsschulen*). The existing two universities (Basel and Geneva) were reorganized, and new universities were founded. The public educational system as it still essentially exists today was created.

One of the preeminent features of Switzerland's political system is the permanent search for an equilibrium between federal and cantonal power. Education essentially lies within the competence of the cantons, the federal state having very little to say in this field; consequently there is no federal ministry of education. Attempts to give more power to the central state in educational matters failed in 1874, when the constitution was totally revised, and again in 1973, when a constitutional amendment was accepted by a small majority of the voters, but rejected by the smallest possible majority of cantons. These failures show that the cantons are very anxious to safeguard their almost exclusive authority in educational matters. Therefore, there is no Swiss system of education: there are 26 cantonal systems. The following description of the “Swiss system” tries to underline both the differences between and the features common to the cantonal systems.

Figure 1 presents an overall picture of the Swiss system of education. However, because of the diversity among cantons, two cantonal systems are presented in Figs. 2 and 3. Figure 2 Appenzell-Innerrhoden, a rural area with low per capita income and Fig. 3 Zurich, a rich urban canton.

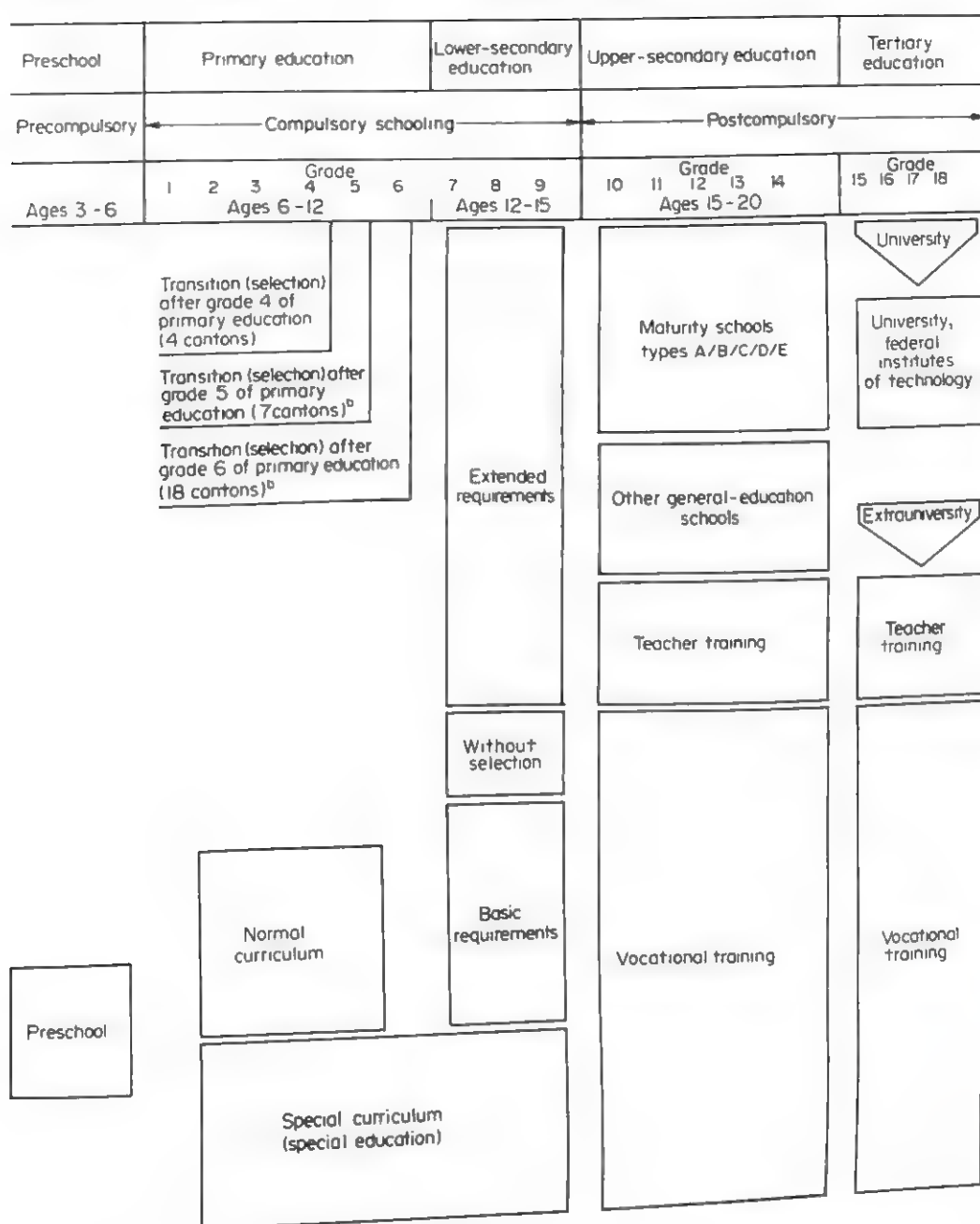


Figure 1 General scheme of the educational systems of the 26 different cantons^{ab}

^a Source: Bundesamt für Statistik, Sektion Schulstatistik ^b In Fribourg, Schaffhausen, and Solothurn transition can occur either after grade 5 or grade 6 of primary education

1.1 Preschool and Primary Education

Normally, Swiss children spend one or two years in kindergarten before going to primary school. Preschool attendance in 1980-81 was 16.2 percent for 4-year-olds, 63.2 percent for 5-year-olds, and 94.3 percent for 6-year-olds (this last figure representing, however, a mixture of preschool and school attendance). There are notable differences between urban and rural regions. Total enrolment in 1980-81 was 120,300; the enrolment rate

has steadily increased and will probably continue to do so.

As these figures show, preschool attendance is not compulsory. It is considered to be complementary to family education. About two-thirds of the cantons have preschool regulations at cantonal level; the most important public body in preschool education, however, is the commune. The trend seems clearly to be to leave preschool education as noncompulsory, but to offer

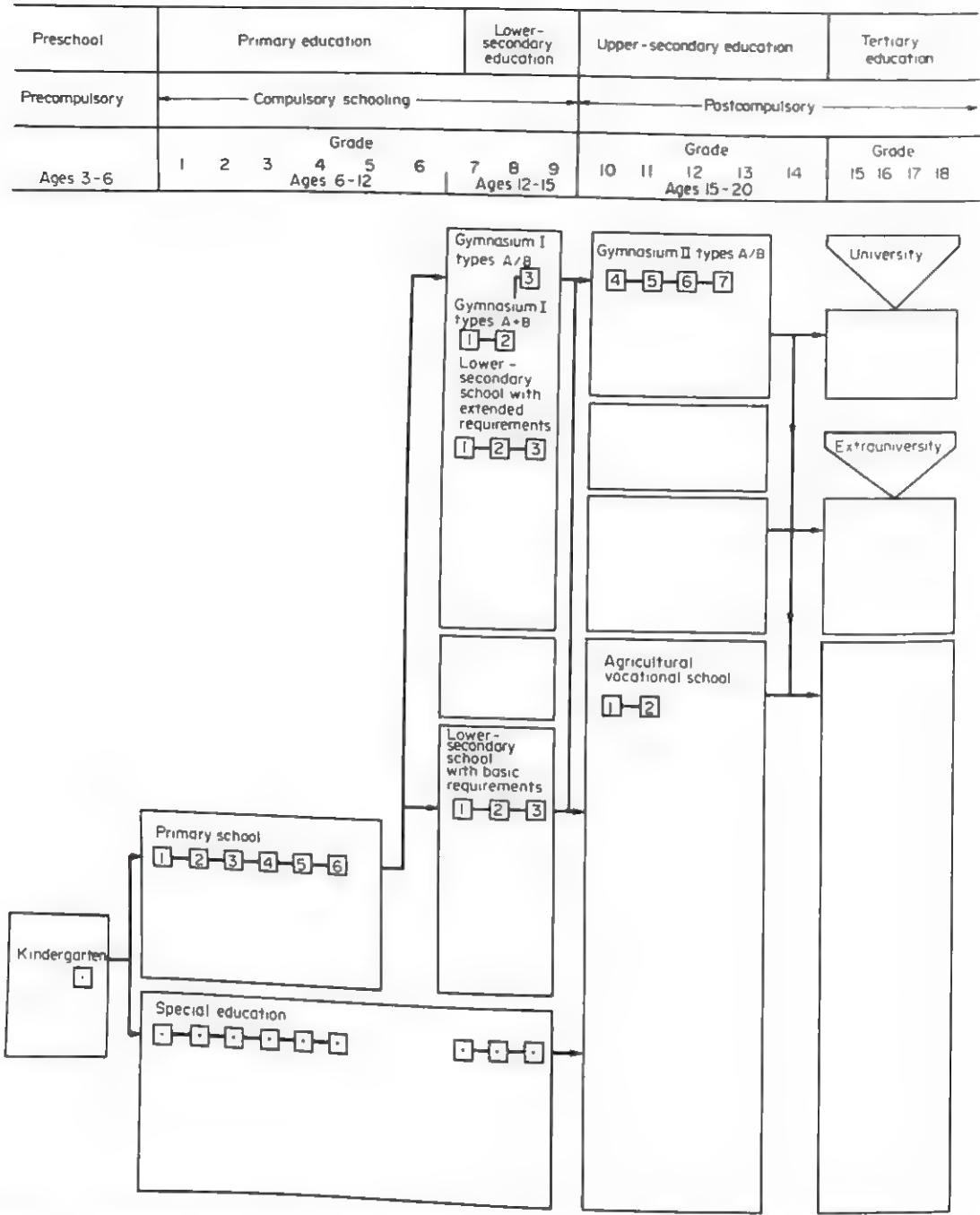


Figure 2
System of education of the canton of Appenzell-Innerrhoden^{ab}
a Source: Bundesamt für Statistik, Sektion Schulstatistik b A rural canton with a low per capita income

parents, by cantonal legislation, an opportunity of a one- or two-year enrolment for every child. Special measures such as the setting up of ambulatory kindergartens are sometimes taken in rural regions. The trend is also from private to public preschool institutions, but the former still play an important part. Besides the traditional (in some areas often church-run) private institutions, new forms of mostly parent-run

play groups are growing in importance. Special attention is given to the transition from preschool to primary school.

As far as the philosophy and the ideology of preschool education are concerned, there is a difference between German-speaking Switzerland (based on Fröbel, 1782-1852) and the French- and Italian-speaking parts of the country (mainly based on Claparède 1873-1940,

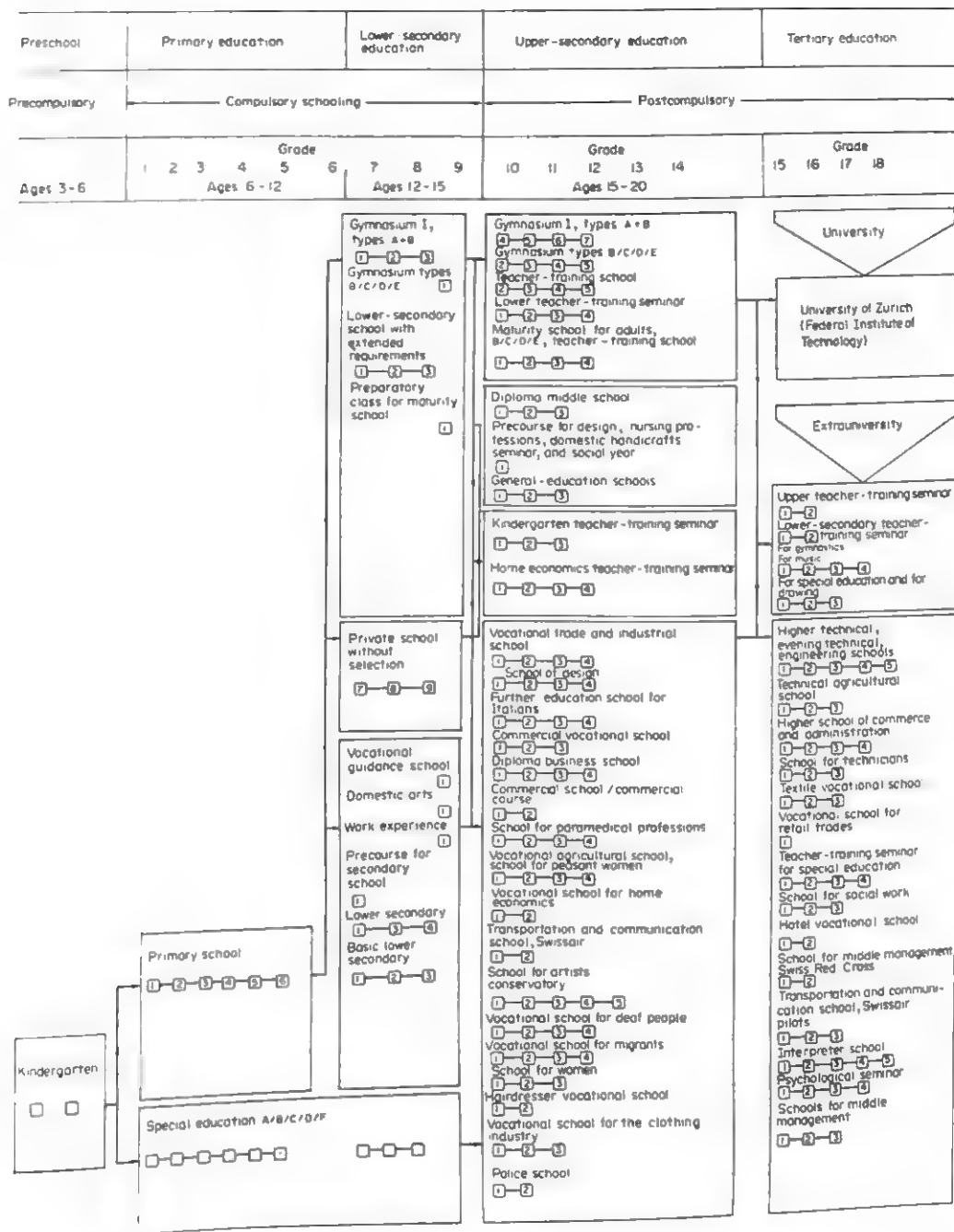


Figure 3
System of education of the canton of Zurich^{a,b}

a Source: Bundesamt für Statistik, Sektion Schulstatistik b An urban canton with a high per capita income

Ferrière 1879–1960, and Montessori 1870–1952). This difference, however, seems to lessen more and more in practice.

The duration of compulsory schooling, divided now into primary and lower-secondary education, has gradually been extended; in 1982, it was nine years in 15 cantons and eight years in 11 cantons. The enrolment rate at this level is virtually 100 percent (see Table 1).

Primary education with all pupils in the same type of school, lasts four years in 4 cantons, five years in 4, and six years in the other 18 cantons (see Fig. 1). Since the end of primary education is the first point of selection in the system, there is a tendency in the first-mentioned cantons to prolong it by one or two years. From a curricular point of view, the 1970s have been (and this would seem to be true also for the 1980s) characterized

Table 1

School enrolment rates 1980-81 (%)^{ab}

Age	Total	Male	Female
4	16.1	15.9	16.5
5	63.2	62.9	63.5
6	94.3	94.5	94.2
7	98.7	98.6	98.7
8	99.4	99.1	99.6
9	99.8	99.9	99.6
10	100.0	100.0	100.0
11	100.0	100.0	100.0
12	100.0	100.0	100.0
13	100.0	100.0	99.9
14	99.7	99.6	99.7
15	97.4	98.2	96.7
16	83.7	90.9	76.1
17	79.1	87.9	69.9
18	69.0	80.7	59.4
19	49.5	59.4	39.3
20	27.0	30.3	23.5
21	17.4	20.1	14.7
22	14.3	18.8	9.8
23	12.5	17.6	7.4
24	10.8	15.5	6.0
25	8.4	12.2	4.7
26	6.5	9.4	3.5
27	5.1	7.5	2.7
28	3.9	5.8	2.1
29	3.3	4.8	1.8
Total	21.5	22.4	19.3

a Source: Bundesamt für Statistik, Sektion Schulstatistik, Schüler- und Studentenstatistik, Schuljahr 1980-81 b Includes part-time vocational schools for apprentices

by a reform of mathematics and an attempt to introduce teaching of a foreign language as early as towards the end of primary education.

1.2 Secondary Education

Lower-secondary education takes place in different types of school of varying difficulty. Some cantons have organized their lower-secondary level in a comprehensive form; in others, the different types of school might be classified into two groups: schools with basic requirements and schools with extended requirements. In 1980-81, 37.7 percent of the total number of pupils in these cantons attended the first type and 62.3 percent the second type.

For the duration of compulsory schooling, special education is offered to handicapped children (total enrolment in 1980-81: 36,500). At all levels of education there also are private schools, whose total enrolment has been estimated at about 70,000.

Upper-secondary education can be divided into four major types: maturity schools, designed for university entrance; other general-education schools; teacher-training institutions; and vocational-training institutions.

Unlike other schools, maturity schools are governed by a federal regulation. Originally, there were only two types of maturity (the final examination providing access to university): A (emphasis on Greek and Latin) and B (Latin and modern languages). Type C (mathematics and science) was added in 1925, types D (modern languages) and E (economics) in 1972. In the 1980s, attempts are being made to reduce these different types to just one offering a great number of individual options.

Up to the Second World War, maturity schools were reserved for a small elite; after the war, and particularly after 1960, enrolment increased spectacularly. It almost doubled between 1960 and 1970 and again between 1970 and 1980 (see Fig. 4), and the total enrolment in 1980-81 was 50,800. This extension was a response to two objectives of educational policy: to provide highly qualified personnel for the economy and to reduce unequal educational opportunity by geographical region, social stratum, and sex. The means of this extension were mainly decentralization of maturity schools and the development of the system of educational grants. The other general-education schools at this level (total enrolment in 1980-81: 14,100) prepare students mainly for certain nonuniversity professions (such as in the paramedical and social fields).

By far the largest proportion of the young (more than 70 percent of males and almost 40 percent of females) enter vocational training after compulsory schooling (normally from about age 16 to about age 19). This is mostly in the form of apprenticeships, consisting of two basic elements: practical training on the job in an enterprise (3.5 to 4 days a week) and theoretical and general instruction in a vocational school (1 to 1.5 days a week). A third element, basic courses in training centres, bringing together apprentices of the same craft or trade for some weeks, is becoming more popular.

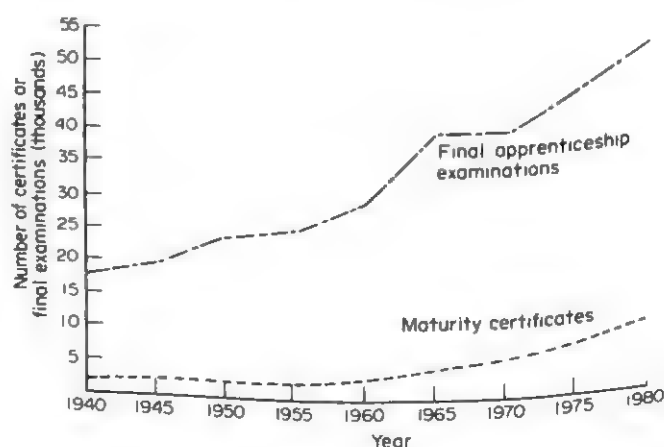


Figure 4

Upper-secondary school enrolment 1940-80^{ab}

a Source: Various *Statistische Jahrbücher der Schweiz*. Bundesamt für Statistik und Bundesamt für Industrie, Gewerbe und Arbeit, Bern b Based on number of certificates in maturity schools and number of final apprenticeship examinations

Following a very old tradition going back to pre-industrial times, apprenticeship is regulated by a contract between master (employer) and apprentice. Craft and trade associations play an important part in establishing job descriptions, training programmes, and examination rules. Vocational training is regulated by federal law; responsibility in the central administration is with the Federal Office of Industry, Trades, and Labour in the Federal Department of Public Economy. Leaving aside agriculture and public health, there are recognized apprenticeships (duration 2–4 years) in about 280 vocations in the fields of industry, handicrafts, and different service sectors. At the beginning of the 1970s, the vocational school with an augmented curriculum (*Berufsmittelschule*) was introduced for particularly gifted or ambitious apprentices.

1.3 Tertiary Education

The main and traditional part of tertiary education is university education, but there is also a growing and increasingly diversified extrauniversity tertiary sector.

Academic education is provided for in the two federal institutes of technology (Zurich and Lausanne), in the seven cantonal universities: Basel (founded in 1460), Bern (1834), Freiburg (1889), Geneva (1559), Lausanne (1890), Neuchâtel (1909), and Zurich (1833), and in the School of Economics, Business, and Public Administration (St. Gallen). As in the maturity schools, the increase in enrolment since 1960 has been spectacular and is expected to continue for some time to come. Thus, the total number of students at the above-mentioned university-level institutions has grown as follows: 1960: 21,300; 1970: 42,200; and 1980: 60,500; and the forecast for 1990 is 71,700.

The extrauniversity tertiary sector is characterized by diversity. This is not so much the result of a deliberate central policy as of a desire to provide pragmatic and specific answers to emerging needs. Admission normally depends on diplomas or certificates acquired in upper-secondary education. Seven professional fields can be distinguished: (a) teaching; (b) higher technical and agricultural professions; (c) social work; (d) health professions; (e) commerce, traffic, administration, and tourism; (f) mass media, information, and communication; and (g) liberal arts. In 1980–81, a total number of 23,800 students were enrolled in extrauniversity tertiary education, about half in public schools, a fourth in subsidized private schools, and a fourth in completely private schools. About two-thirds are full-time and the rest part-time students. Of particular note are the higher technical institutes (*Höhere Technische Lehranstalt* or HTL). There is general agreement that the engineers trained in these institutes have played, and still play, an important role in the development of Swiss industry.

1.4 Adult Education

Adult education in Switzerland is almost completely a private matter. On the vocational side, industry and other economic sectors organize a wide variety of

further training courses on an intra- or inter-firm level, whereas general adult education is offered by a great number of organizations and associations, sometimes on ideological grounds and sometimes on a commercial basis. About 30 of the most important associations form the Swiss Federation for Adult Education, founded in 1951. Courses organized by the federation are attended by about half a million participants a year, totalling about 10 million participant-hours.

2. Administrative and Supervisory Structure

As shown above, responsibility for education lies essentially with the cantons. Each canton has its own school law and its own system of education. Cantonal governments all have a department of education. In a number of cantons, the government is assisted by an elected consultative body in educational matters (*Erziehungsrat*). The next level of the supervisory structure in many cantons, but not in all, is the district (*Bezirksschulrat*). All local decisions are taken by the local educational authority (*Schulpflege* or *commission scolaire*), a body elected by and out of the communal population, in which the local teacher representatives have a consultative voice. Each teacher is supervised by an inspector. In some cantons, these are part-time fellow teachers or lay persons and in other cantons full-time staff of the department of education. As a result of this decentralized multilevel structure, the link between the population and its educational system is very close. On the other hand, since all important decisions are put to the vote of the population, changes in the system of education are normally very slow.

It seems obvious that an educational system characterized by decentralization and by cantonal authority calls, on the other hand, for harmonization and coordination. This is the main task of the Swiss Conference of Cantonal Directors of Education, which was founded in 1897, but has significantly reinforced its activities since about 1970. Its main organs are the Concordat on School Coordination (dating from 1970), a number of commissions, and a few institutions. The concordat is responsible for determining the compulsory school-entrance age (6 years), the duration of compulsory schooling (at least 9 years), and the beginning of the school year (between August and October). This last point has been widely discussed and put to the vote in a number of cantons (in some of them several times) for a period of more than 10 years. The school year still begins in spring in some cantons and in autumn in others.

Pedagogically more important than these organizational points are the provisions of the concordat aiming at common principles for the programmes, common textbooks and manuals, etc. Among the different coordinating bodies of the conference, the Pedagogical Commission, founded in 1972 and responsible for compulsory school affairs, is probably the most important. Its activity is characterized by a close link between

Table 2

Public expenditures by the confederation, cantons, and communes for education and research (1979)^a

Level of education	Millions of Swiss francs			Total (without double imputation)
	Confederation	Cantons	Communes	
Compulsory education	52.8	2,487.6	3,103.6	4,516.7
Vocational school	234.5	766.5	415.8	1,064.3
Upper-secondary education	50.3	1,081.0	78.7	1,094.6
Universities and research	1,174.4	965.7	4.0	1,828.7
Other expenditures	6.7	181.4	60.9	216.7
Total	1,518.7	5,482.2	3,663.0	8,721.0

a Source: Bundesamt für Statistik, Statistisches Jahrbuch der Schweiz, 1981, p. 408

coordination and pedagogical reform. The Conference of Cantonal Directors of Education runs institutions working at the national level: the Swiss Educational Documentation Centre in Geneva, the Swiss Coordination Centre for Research in Education in Aarau, and the Swiss Centre for the In-service Education of Secondary School Teachers in Lucerne. The first two are institutions common to the conference and the federal government; in this they are an expression of what is called cooperative federalism in education. The same is true of the Swiss University Council (*Schweizerische Hochschulkonferenz*), an intercantonal and federal planning and coordination body for university education. On the other hand, the federal government is assisted in scientific and educational affairs (as far as federal competence goes) by the Swiss Science Council, a consultative body.

3. Finance

A functional classification of total public expenditure for education and research shows, for the year 1979, that 51.8 percent was spent on compulsory education, 12.2 percent on vocational schools, 12.5 percent on upper-secondary education (other than vocational), 21.0 percent on universities, federal institutes of technology and research, and 2.5 percent on other educational matters. The classification by sources of financing, on the other hand, shows that 14.2 percent of total public expenditures for education and research were financed by the confederation, 51.4 percent by the cantons, and 34.4 percent by the communes (for absolute figures, see Table 2).

Overall spending on education and research in 1980 was 9,300 million Swiss francs, or 19.7 percent of total public expenditure. With this amount, education occupied the top position, followed by social welfare (14.2 percent), transportation, traffic and energy (12.3 percent), public health (11.2 percent), and national defence (8.1 percent). Total public expenditure for education and research increased from 4.0 percent of the gross national product in 1970 to 5.4 percent in 1975.

The financing of universities was originally completely a cantonal matter. The cantons were, however, unable

to meet the increase in expenditure resulting from the fast-growing number of students after 1960. In 1968, the federal law of subsidy to the cantonal universities (*Hochschulförderungsgesetz*) was implemented. When the confederation's financial budget began to encounter difficulties in the 1970s, the number of financial resources for the universities had to be enlarged again. Since students from all cantons are enrolled in the eight cantonal universities, the university cantons asked the nonuniversity cantons to contribute to the financing of the universities. In 1981, the nonuniversity cantons paid a per capita contribution for the first time for each of their students to the university cantons.

In the period 1967–74, the average per capita expenditure for education was 600 Swiss francs for all of Switzerland but there was large intercantonal variation: it ranged from a minimum of 305 francs in the canton of Appenzell-Innerrhoden to a maximum of 1,016 francs in the canton of Geneva.

4. Supply of Personnel

Despite the diversity of teacher-training institutions, two main types can be identified. The traditional one is the so-called seminary, starting after compulsory schooling and training teacher candidates in a programme of typically four years' duration. There is no strict separation in the curriculum between general education and professional preparation. When, in the late 1960s and early 1970s, the seminary became the object of growing criticism, its training being judged insufficient, two alternative solutions were put forward: (a) maintaining the structure of the seminary, but extending the duration to five or six years and (b) changing the training to the type which already existed in Basel and Geneva. In this second type, candidates finish upper-secondary education with a maturity examination, thus consolidating their general education, and then undergo professional training of two years' duration at the university or in an extrauniversity tertiary education institution such as the *Höhere Pädagogische Lehranstalt* (HPL). In the 1970s, there were reforms in a number of cantons, with a clear trend towards the second type, but

with the extended-seminary type nevertheless retaining much of its traditional importance. For at least some time to come, the two types will probably coexist. Teachers trained at the above mentioned institutions are certified for teaching in primary and, in some cases, lower-secondary education.

Teachers for upper-secondary education obtain their qualification on completion of full academic studies in the field in which they are going to teach. There is an almost general agreement that the professional aspect of their training (courses in didactics) should be strengthened. In the part-time vocational schools for apprentices there are different teachers for general education and for vocational specialization. Whereas the latter are normally master craftsmen with little teacher training, the former are now trained in the Swiss Institute for Vocational Education (*Schweizerisches Institut für Berufspädagogik*), created by the confederation at the beginning of the 1970s. For all categories of teachers, further training is considered very important; it is partly voluntary and partly compulsory, partly organized by the educational authorities and partly by teacher associations on a cantonal, regional, or, sometimes, national level. A few cantons have also created full-time further-training institutions to which teachers can return after a certain number of years of practical work. Such courses normally last six months during which time the teachers receive their full salary.

Most teacher-training reforms are heavily influenced by the report "Teacher Training of Tomorrow" (*Lehrerbildung von morgen*), commissioned by the Swiss Conference of Cantonal Directors of Education and published in 1975. Its recommendations include detailed proposals for structure, curriculum, didactic principles, supervision at the beginning of professional activity, and further training.

In 1980-81, 9,900 student teachers were trained in over 50 institutions at the upper-secondary level, and 3,100 were trained in around 120 institutions at the extrauniversity tertiary education level.

5. Research and Development

Research in education has a relatively long tradition in French-speaking Switzerland, where Edouard Claparède (1873-1940) and Pierre Bovet (1878-1965) founded the Institute Jean-Jacques Rousseau in 1912. Jean Piaget (1896-1980) also worked in this institute which has now become the Faculty of Psychology and Education Sciences of the University of Geneva. In German-speaking Switzerland, educational research was almost exclusively philosophically based until the Second World War. Experimental and empirical research in education started after the war with research institutes being founded in the late 1960s and early 1970s. Three main types of institution can be distinguished: (a) university institutes, mostly in the fields of education, psychology, or sociology; (b) institutions

within the framework of educational administration at the cantonal or regional level (most of them with an emphasis on development activities); and (c) private institutions. The importance which research should have in the field of education was officially underlined several times by the Swiss Science Council. In its 1973 report on urgent needs in research, research in education was among the few disciplines to be given top priority. The following were defined as priority themes within research in education: (a) preschool education, (b) learning and teaching processes, mainly in mathematics and language teaching, (c) curricular research, (d) educational organization and planning, (e) vocational training, and (f) adult education and special education.

The establishment, in 1971, of the Swiss Coordination Centre for Research in Education was a result of an initiative of the Science Council. This centre, whose main task is to promote research and coordination in research, teaching, administration and politics, currently publishes information on continuing and completed research and development projects. This permanent inquiry shows that research, on the whole, is still fairly scattered and dispersed, that small projects dominate, and that only a few institutions are able to work with effect and continuity.

There are two large nationwide projects, *Education et vie active* and *Überprüfung der Situation der Primarschule*. *Education et vie active* (Education and active life) is a national research programme, financed by the Swiss National Science Foundation. The programme has three parts: (a) personality development and vocational training in the work situation, (b) organizational problems in vocational training institutions and the organization of teaching and learning processes, and (c) problems of transition in careers and the life cycle. *Überprüfung der Situation der Primarschule* (General review of the situation of primary education) has four parts: (a) goals of primary education—claims and reality, (b) functions and forms of pupil evaluation (c) transition from preschool to primary education, and (d) cooperation between school and parents.

The increasing vitality of research in education in Switzerland and a growing consciousness of its importance are also demonstrated by the foundation, in 1975, of the Swiss Society for Research in Education. The society publishes a scientific review called *Bildungsforschung und Bildungspraxis/Education et Recherche* (Research and Practice in Education).

6. Major Problems

Any prognosis of future problems is partially subjective, the appraisal of the future depending, among other things, on value judgments which differ from political party to political party. None the less, the following list of problems covers the main issues to be faced by the Swiss educational system in the 1980s and 1990s:

- (a) The number of school children will considerably diminish for some years to come. It will be one of the tasks of the educational system to take advantage of this situation from a pedagogical point of view by such measures as the further reduction of the average class size, individualization of teaching, and intensification of ongoing reforms.
- (b) Structural reforms will probably focus on lower-secondary education in order to reduce the qualitative differences between schools with basic and schools with extended requirements. Reforms of teacher training for this level of education will have to be introduced along with structural reforms.
- (c) Depending on one's general view of society and education, one of the present problems can be seen in the gap in general education between vocational training and general-education schools at the upper-secondary level. From such a point of view, general education should be enriched with practical training, and vocational training should be enriched with more general education.
- (d) Progress has been made towards the equalization of educational opportunity. Nevertheless, at the beginning of the 1970s, children from rural communes had only half the chance of children from urban communes of entering higher education. As far as socioeconomic origin is concerned, school statistics from the canton of Geneva show that, in 1975, children from different milieus had the following chances of getting into an upper-secondary maturity school (grade 10): unskilled workers 11 percent, skilled workers 17 percent, independent artisans 32 percent, lower employees 24 percent, higher employees 38 percent, middle management 47 percent, higher management 78 percent, and directors and liberal professions 84 percent. Continuing efforts towards more equal educational opportunities have to be seen in connection with curricular changes and with the educational impact of the economic situation.
- (e) If one accepts the hypothesis that, on the one hand, the still growing complexity of life calls for even more education in the future, and that, on the other hand, the duration of initial formal education should not be further prolonged (the discrepancy between the biological and socioeconomic status of many young people being most probably one of the roots of present youth unrest), then the problem arises of how to provide more education without prolonging initial education. The solution to this problem may be sought among the principles of lifelong and recurrent education. This would require structural changes in tertiary and upper-secondary education and have an impact on the whole system of education. It could at the same time provide for an extension of adult education and its gradual integration into the system.
- (f) It may be assumed that education has the following fundamental functions: (i) development of the personality (in a wide sense), (ii) qualification (in a restricted economic sense), (iii) socialization (transmission of values, integration into society), and (iv) distribution and legitimation of social status. For the coming years and maybe decades, increasing conflicts between some of these functions can be foreseen (personality development versus qualifications asked for by the economy, or social-status aspirations versus qualifications needed by the economy). Political conflict over these questions will have an impact on society and education (quality, quantity, and structure of education).
- (g) Alarming signals from a number of countries indicate that there is increasing functional illiteracy in highly developed societies. The reason for this discrepancy between a steadily growing average duration of formal schooling and signs of extreme lack of education may be one of the problems to be tackled in the coming decades. It may also revive the question: What is education?

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Syria

M. Azzam

An immediate result of the First World War was the termination of the Ottoman occupation of Syria which had lasted for four centuries (1516–1918) and the setting up of a Hashemite regime under King Faisal. This lasted until 1920, when Syria was occupied by French forces and controlled by France under a League of Nations mandate until April 17, 1946. The French then left Syria and independence was declared. A union with Egypt under the name of the United Arab Republic was negotiated in 1958 but was terminated in 1961. Since then the country has been known as the Syrian Arab Republic. Since 1963, the Arab Socialist Resurrection Party—Baath Socialist Party—has been in power. The present constitution of Syria which was approved in 1973 defines the Syrian Arab Republic as a democratic people's state, sovereign, and socialist.

The present geographical shape of the state was determined at the beginning of the French mandate in 1920. Syria lies on the eastern coast of the Mediterranean Sea and is bordered by Turkey on the north, Iraq on the east, Jordan on the south, and Lebanon and the Mediterranean Sea on the west. The total area is 185,000 square kilometers (71,429 square miles) of which 43 percent is arable and the remainder is desert or rocky mountains.

About 90 percent of the Syrian population, which numbered 8.98 million in 1980, are Arabs, and the remainder are Kurds, Armenians, Circassians, and Turkomans. Arabic is the official language in Syria. The population is concentrated mainly along the coast and in the plains region parallel to the coast, with nearly equal settlement in rural and urban areas. However, the main demographic factors affecting education as well as development are: (a) a very high population growth rate of 3.3 percent, (b) an increasing proportion of children aged 0–14 years among the total population (46.2 percent in 1960 and 48 percent in 1980), and (c) considerable rates of net emigration from rural to urban areas.

The Syrian economy has undergone substantial changes in terms of the structure and the distribution of employment. Employment in agriculture, which accounted for about 50 percent of the labor force with its contribution to the gross domestic product (GDP) at about 30 percent in the early 1960s, dropped to about 32 and 16 percent respectively in 1980. On the other hand, the industrial sector, which accounted for 16 percent of the labor force and 20 percent of GDP in the early 1960s, grew to 28 and 37 percent respectively in

1980. The labor force was about 24 percent of total population in 1980, of which 3.5 percent were unemployed, that is, there were 3–4 dependents for each active person. Among the economic objectives of the fifth five-year plan (1981–85) were: an annual average percentage growth of 7.7 for GDP, 7.8 for agriculture, and 15.3 for manufacturing and minimizing the import–export ratio which was 2:1 in 1980.

Syria was the site of many great cultural centers in ancient times, with famous names like Palmira, Ugarit, Mari, Elba, Damascus, and Aleppo. The earliest known alphabet, of some 30 characters, dating back to the fourteenth century BC, was discovered in the ruins of Ugarit.

During the Ottoman occupation (1516–1918), the object of schools, known as *kuttabs*, was to teach the Koran, the principles of religion, and the rudiments of reading, writing, and arithmetic. Through contact with the West, some educational reforms led to the foundation of military and public schools, in which education was restricted to the sons of notables and civil servants, with Turkish as the official language. In the nineteenth century, many foreign schools were founded by religious Christian missions and only some of them taught Arabic. However, the short-lived Arab State which was established in Syria under King Faisal (1918–1920) had a beneficial impact on education. It made Arabic the instructional language, founded new schools, and established the Academy of Arabic, the Arab Scientific Society, the School of Law, and the Institute of Medicine.

Under the French mandate (1920–46), a series of laws and regulations was imposed to enable the French to control and direct education according to their political aims. Illiteracy increased because only 5 percent of the general budget was allocated to education and the schools were located mainly in towns. Due to the pressure of national demand, a constitution was proclaimed in 1928 which provided that: (a) education in general should be free and the primary level should be compulsory, while curricula should be directed towards national ideals; (b) Arabic should be the official language in the public sector; and (c) technical education should be imposed as compulsory in order to meet the country's needs for technical personnel. Because of the continued French control over education, only some of the above reforms were implemented before the mandate ended. In 1945–46, no more than 5 percent of the total population were enrolled in all the schools.

Soon after independence in 1946, many reforms and changes aimed at the development and expansion of education followed successively, such as the opening of the Higher Teachers' College in 1946, the establishment of the National Cultural Committee for the Organization of Education, the Law on Vocational Training, and the regulation for primary education in 1948, the standardization of textbooks in 1949, and other important measures. From the very first year, 1947, the budget of the Ministry of Education rose to 16.7 percent of the total budget and the number of students had increased by about 40 percent over 1946.

The period of unity with Egypt (1958–61) was distinguished by converting from a five- to six-year primary school with automatic promotion from grade to grade. Since 1963, when the Baath Socialist Party came to power, considerable attention and support have been devoted to education.

1. Goals of the Educational System

The current constitution of Syria, which was approved in 1973, defined the principles of education as embodied in the following Articles 21 to 24 and Article 37:

The educational and cultural system shall aim to bring up a national Arab generation who are socialist and scientific in their manner of thinking, attached to their land and history, proud of their heritage, and imbued with the spirit of struggling to realize the aims of the nation of unity, liberty, and socialism and of contributing to the service and progress of humanity.

The educational system shall ensure the continued progress of the people and shall meet the needs of their continued social, economic, and cultural development.

The national socialist culture shall be the basis of building up the unified socialist Arab society. It shall aim at enhancing moral values, realizing the ideals of the Arab nation, developing society, serving human causes, and encouraging artistic talents and physical education.

Science, scientific research and all scientific achievements constitute a main prop for the progress of Arab socialist society. The state shall give it full support.

Education shall be a right guaranteed by the state. It shall be free in all stages and compulsory in the primary steps. The state shall endeavor to make other stages compulsory, and shall supervise education and direct it in a manner ensuring adapting it to the needs of society and production.

2. General Structure and Size of the Education Effort

The structure of the educational system consists of: nursery and kindergarten, four to five years (ages 1–5); primary, six years (grades 1–6, ages 6–11); intermediate or preparatory, three years (grades 7–9, ages 12–14); secondary, three years (grades 10–12, ages 15–17)—with literacy, scientific and technical/vocational branches, and higher education, consisting of teacher colleges, technical/vocational training institutes, intermediate institutes, and university institutions.

2.1 Nursery and Kindergarten Schools

The education effort at this level is very modest due to the fact that these schools are neither public nor free. They are sponsored by the private sector and mainly by the General Union of Women. The role of the Ministry of Education is to control and subsidize the programs. There were 351 schools and 33,611 children in 1980–81.

2.2 Primary and Intermediate Levels

According to the law, primary education is compulsory in Syria, but no strict measures have been taken to implement this compulsion. However, the considerable efforts made since 1960 have resulted in dramatic quantitative development: enrollments increased from 482,536 pupils (343,146 males, 139,390 females) in 1960 to 1,555,921 (888,141 males and 667,780 females) in 1980, a relative increase of 222 percent (159 percent for males, 379 percent for females) (see Fig. 1). In spite of this development the net enrollment ratios are still unsatisfactory with regard to females—77 percent as against 96 percent for males in 1980. Differences also exist between urban and rural areas, being 90 percent (97 percent for males, 83 percent for females) in urban and 84 percent (95 percent for males, 72 percent for females) in rural areas in 1980. Among factors which impede full compulsion are: the high population growth rates, nomadism, lack of facilities in remote areas with a small population, family financial problems, and certain social attitudes towards the education of girls in some rural areas or families.

All pupils who have successfully completed the primary level are eligible to enter intermediate schools. Since 1970, the successive five-year plans have included objectives to merge primary and intermediate levels into one single level to be called the level of basic education and to extend compulsion to cover it, but

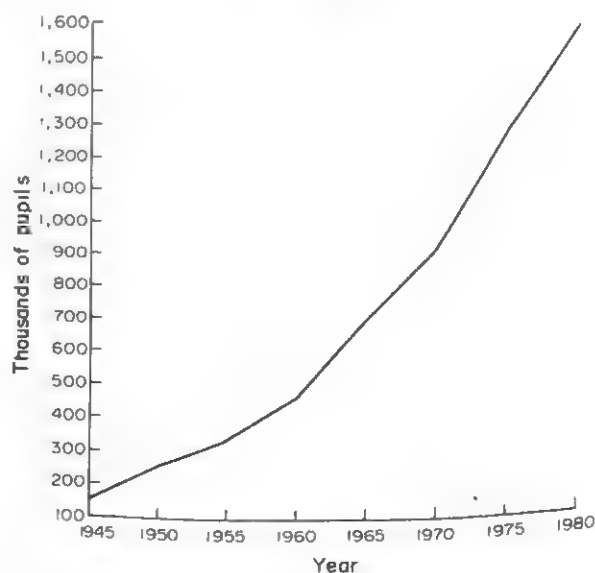


Figure 1
Primary-school enrollment 1945–80

by 1982, these objectives had not been realized. Enrollments increased from 65,122 pupils (50,125 males, 14,997 females) in 1960 to 418,604 (265,011 males, 153,593 females) in 1980, a relative increase of 543 percent (429 percent for males, 924 for females). Despite this dramatic increase, the net enrollment ratios are still low: 66 percent in 1980 as compared with 43 percent in 1970. Graduates obtain a diploma called the Intermediate Level Diploma after passing a national examination.

2.3 Secondary Level

Secondary education is of two types: (a) general, which is made up of two branches—scientific and literary—having the same programs in the first year; and (b) technical, which covers three branches—industrial, commercial, and agricultural. General secondary is the most popular, accounting for 86 percent of the total secondary enrollment in 1980, with the scientific: literary ratio being 3:1. The percentages within technical education in 1980 were 62, 33, and 5 percent for industrial, commercial, and agricultural tracks respectively. General secondary programs prepare pupils for higher education, but technical programs prepare them for employment, except for top graduates who are admitted to higher education. The secondary level is open to all pupils who hold the Intermediate Level Diploma. However, those who are 15 years old are free to choose either general or technical, but those beyond this age must enter technical schools. Figure 2 presents the increase in enrollment from 1945 to 1980. Graduates of this level obtain the secondary certificate (known as the *baccalauréat*) in a specific branch after passing a national examination.

2.4 Higher Education

There are four universities in Syria, with total enrollments of 94,794 (70,063 males, 24,731 females) in

1980 against one university with an enrollment of 736 (725 males, 11 females) in 1946, the year of independence. The oldest and largest is Damascus University with 14 different faculties (founded in 1919), followed by Aleppo University with 7 faculties (founded in 1960), Tishreen University in Latakia with 5 faculties (founded in 1971), and Al-Baath University in Homs with 5 faculties (founded in 1979). In addition to the enrollments in these universities, there were about 3,200 students holding scholarships abroad and more than 21,000 studying on their own in 1980. The other type of higher education institution is the two-year post-secondary intermediate institute. There were 61 such institutes in 1980, with an enrollment of 23,110 (13,671 males, 9,439 females). They provide training programs for technicians, professionals, and paraprofessionals who are seriously needed for the socioeconomic development of Syria.

According to the law, all students who pass the general secondary examination are eligible for admission to higher education in the same year. However, top graduates of technical secondary schools are admitted to engineering programs, and graduates from intermediate institutes have no admission to universities. Access to the different academic programs is based on the scores obtained in the general secondary examination, with the proviso that literary-branch graduates are admitted only into programs in arts, fine arts, commerce, law, and Islamic jurisprudence.

2.5 Nonformal Education

There are two major aspects of nonformal education in Syria; the first is literacy education and the second covers a variety of vocational and cultural activities.

Despite the efforts made by governmental and non-governmental agencies in literacy education, the percentage of illiteracy was 38 (23 percent of males, 55 percent of females) in 1979 as against 53 (34 percent of males, 73 percent of females) in 1970 and 64 (46 percent of males, 82 percent of females) in 1960. The Ministry of Culture is in charge of coordinating all programs and publicity in addition to its involvement in administering literacy classes, which numbered 1,114 in 1980. Among the other ministries and agencies involved are the Ministries of Social Affairs and Labor, of Agriculture, and of Industry and the general federations of trade unions, of women, of farmers, and of students.

The Ministry of Culture provides general adult education through courses in subjects such as arts, music, literature, housekeeping, sewing, and knitting. The clients of these courses should be literates over 15 years of age and the courses take place in the different types of institutions: 33 popular-education institutes, 10 fine-arts centers, 2 applied-arts institutes, 2 music institutes, and many cultural centers.

The Ministry of Agriculture provides long-term training courses of three months' duration for literate farmers above 18 years of age, and short-term courses of 6 to 21 days for farmers over 16 years of age.

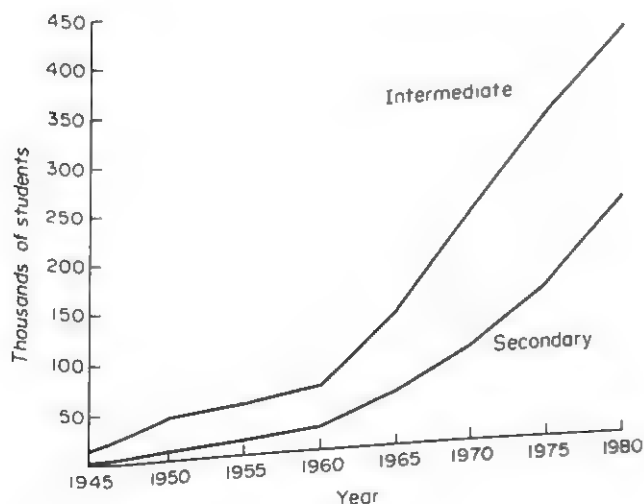


Figure 2
Secondary-school enrollment 1945-80

The Ministry of Industry is in charge of vocational training in three categories: (a) accelerated training, which aims at equipping literate adults of 16 to 35 years of age with basic entry-level job skills as quickly as possible—40 to 60 weeks; (b) industrial apprenticeship, which aims at the training of skilled workers for public industries and for which entrants must hold the Intermediate Level Diploma and be 15 to 18 years of age; this training is offered in the training centers of the ministry and in factories for two years; and (c) specialized training, which is designed to meet the needs of the public sector for new or on-the-job workers and which varies in content and duration—6 to 24 months, provided that the participants hold the Intermediate Level Diploma.

The Ministry of Social Affairs and Labor administers a central institute for the education of peasants, two institutes for the deaf and dumb, and two institutes for the blind. In addition, it provides, through its community development centers, certain courses and activities such as home economics, nursery education, veterinary medicine, and film shows.

There are also some nongovernmental agencies which undertake nonformal education activities, such as the General Union of Women which carries out courses in typing, embroidery, knitting, and child care, and the General Federation of Trade Unions, which organizes courses in handicrafts.

3. Administrative and Supervisory Structure

Education in Syria is, primarily, the responsibility of the Ministry of Education and the Ministry of Higher Education, with a limited role exercised by the private sector, some other ministries, and the United Nations Relief and Works Agency (UNRWA) which has primary and intermediate schools for the Palestinian refugees.

The Ministry of Education controls all preuniversity formal education (only secondary agricultural schools come under the Ministry of Agriculture), in addition to the two-year postsecondary institutes, which train teachers for the primary level, for the intermediate level in subjects like music, handicrafts, and physical education, and for technical secondary schools in handicrafts only, and institutes that train technicians at the assistant-engineer level. Teaching programs and major policies are determined at ministry level but there is some participation in the policy making and administration at the local level through the directorates of education in the regions (*mohafazat*). Implementation of these programs, which are the same all over the country, is maintained through inspectorates. Since 1967, private schools have been strictly controlled by the ministry which appoints the principal in each school.

The Ministry of Higher Education is responsible for almost all higher education institutions. Liaison is maintained with these institutions through the Council of Higher Education which is headed by the minister and consists of the university rectors, two vice-rectors from

each university, the deputy ministers of the Ministries of Education, of Higher Education, of Planning, and of Health, one representative from the teachers' union, and two representatives from the students' union. This council exercises important responsibilities for planning, policy guidelines, academic programs, funding, admissions, and coordination among universities and intermediate institutes.

In addition, there are other ministries involved in some specific types of education and training designed to meet certain personnel needs. These include the Ministries of Health, through three intermediate health institutes; of Planning, through the Planning Institute for Economic and Social Development; of Information, through the Institute of Information Media; and of Industry, through the Institute for Textiles.

4. Finance

Education in Syria is free in all public institutions at all levels. However, modest tuition fees are levied in private schools, which accounted for 3.2 percent of total enrollments in 1980 as against 4.4 percent in 1970. Since independence in 1946, the budget for education has increased from 10 million Syrian Pounds (US\$1 = 5.5 SP) in 1946 to 2,346 million in 1980. The increase indices calculated at 1946 constant prices were 100 in 1946, 389 in 1950, 718 in 1960, 2,586 in 1970, and 23,567 in 1980; the budget of education as a percentage of the consolidated budget was 9.6, 18, 13.8, 9.3, and 8.1 percent in the same years, and as a percentage of GDP was 3.06 in 1965, 3.65 in 1970, and 4.58 in 1980. In 1980, the education budget allocation was 74 percent for prehigher and 26 percent for higher education. The prehigher funds were distributed at 50.5 percent for primary, 33.5 for intermediate and general secondary, 10.5 for technical secondary, and 5.5 for others.

Despite the considerable increase of education funds, it must be noted that there is rapid population growth and wastage caused by high repetition and dropout rates (ranging up to 15 and 13 percent at primary, 43 and 21 percent at intermediate, and 40 and 17 percent at secondary for repetition and dropout respectively). Thus, the educational system still faces shortages of teachers and school facilities which result in double-shift sessions and less emphasis on laboratory and practical activities.

5. Supply of Personnel

In 1980, the numbers of teachers were: (a) 55,426, (25,736 males, 29,690 females) at the primary level, of which 12,000 (7,460 males, 4,540 females) were unqualified and employed on a temporary basis; and (b) 23,155 (16,046 males, 7,109 females) at the intermediate and secondary levels, in addition to many other teachers working on a part-time basis to cover a shortage of 7,100 teachers. The pupil-teacher ratio was rather high, being 30:1 in primary schools, 38:1 in intermediate

schools, and 36:1 in secondary schools. The above-mentioned shortages in teachers are due mainly to the rapid growth of enrollments and to the decreasing interest in the teaching profession stemming from low salaries and low social status. Primary-school teachers are trained in the two-year postsecondary institutes, known as teacher-training colleges, under the Ministry of Education, whereas secondary-school teachers are trained for one year at a faculty of education following a university degree in a given field of specialization. The faculty at teacher-training colleges are secondary-school teachers with good experience. Professors at the universities usually hold doctoral degrees from abroad.

The improvement of quality is the responsibility of the training committee at the Ministry of Education, which provides for training courses lasting from 2 to 24 weeks, and of the Council of Higher Education, which provides for training abroad for university-level staff for a period not exceeding one year.

6. Curriculum Development and Teaching Methodology

The Department of Curricula and Textbooks at the Ministry of Education is responsible for the development of curricula and teaching methods and for writing and trying out the learning materials at all preuniversity levels of education. For this purpose, officials in that department carry out their job in cooperation with inspectors and knowledgeable teachers. However, the curriculum, which is uniform nationwide, is characterized by being academic and theoretical with emphasis on factual data rather than on basic concepts, attitudes, skills, and values, and by rather weak environmental relevance, particularly in rural areas. Teaching methods are entirely didactic and predominantly verbal, that is, the concept of self-learning is not well recognized. Efforts are being exerted by the Ministry of Education to improve quality in order to cope with the problems and difficulties stemming from the tremendous quantitative achievements since independence.

7. Examinations, Promotion, and Certification

Examinations in Syria still follow the traditional rigid patterns according to which more emphasis is placed on memorized facts than on modes of thinking, skills, and attitudes. These examinations are considered as aims in themselves and, hence, have a negative effect on curriculum development. In many ways, they may be considered as an obstacle to the improvement of efficiency and quality of the whole educational system.

For promotion to the next grade, the student should obtain an average of 50 percent of all marks but must obtain at least 50 percent in Arabic and a minimum of 20 percent in each other subject. At the conclusion of both the intermediate and secondary levels, the student has to pass a public nationwide examination to earn

the certificate of that level. To pass the examination, students must obtain the sum of minimum scores, being 50 percent for Arabic and 40 percent for other subjects, provided that (a) they are successful in Arabic and pass at least all other subjects but one, or (b) they are successful in Arabic and pass at least all other subjects but two, so long as 25 percent of the maximum for the two subjects together is earned.

The degrees awarded by Syrian universities are the bachelor's degree, a diploma, the Master of Arts or Science, and the Doctor of Philosophy.

8. Educational Research

At the preuniversity level, the Departments of Research and of Planning at the Ministry of Education are in charge of educational research and studies aiming at the improvement of the educational process, whereas research at the university level is undertaken by several faculties, primarily as part of graduate programs. However, the fifth five-year plan (1981-85) will establish an educational research center.

The following topics exemplify the types of research study undertaken in the 1970s:

- (a) development of higher education in Syria, Damascus, 1971;
- (b) population dynamics and educational development in Syria, undertaken jointly by the Ministry of Education and UNESCO, 1972-74;
- (c) development of preuniversity education in Syria, Damascus, 1974; and
- (d) dropout of girls and boys in Syria, undertaken by the Ministry of Education and UNESCO, 1979.

9. Major Problems

Due to the rapid increase in enrollment in recent years, and despite the unsatisfactory enrollment percentages, the educational system is now faced with a serious shortage of school buildings, resulting in crowded classrooms, double-shift sessions, and the use of rented buildings rather than buildings purpose-built for education; a serious shortage of qualified teachers and teaching aids; and an imbalance in enrollment in secondary and higher education, where enrollments are much higher in general secondary than in technical/vocational and in arts faculties than in sciences faculties.

These will be the main challenges for the 1980s and 1990s. The following are the main objectives: the development of kindergartens under the Ministry of Education, the unification of primary and intermediate levels into one basic compulsory level of nine grades, the improvement of curriculum relevance and enrollment

balance in higher and secondary education to meet the objectives of socioeconomic development, and, finally, the improvement of the quality of education at all levels.

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Tanzania

C. M. Michel and I. M. Maimbolwa-Sinyangwe

The United Republic of Tanzania in East Africa comprises Tanganyika and the islands of Zanzibar and Pemba, which are situated about 40 kilometers off the coast north of the nation's capital, Dar es Salaam. Tanganyika, more often referred to as mainland Tanzania, lies south of Uganda and Kenya, east of Zaire, and north of Zambia, Malawi, and Mozambique. The country covers an area of 939,652 square kilometers (362,706 square miles).

The population of more than 130 ethnic groups was estimated at 20.4 million by mid-1983 (Europa 1985) and was growing at an annual rate of 3.3 percent (Omari et al. 1983). The majority of Tanzanians are of Bantu origin, with the largest group being the Sukuma, numbering more than one million. Groups of Nilotic or related origin include the nomadic Masai and the Luo. Only 1 percent of the population consists of Asians, Arabs, and Europeans. Each ethnic group has its own language, while the national language is Swahili, a Bantu-based tongue with strong Arabic borrowings. In terms of religious affiliation, the population is 30 percent Christian, 30 percent Moslem, and 40 percent animist.

Tanzania is one of the least urbanized countries in Africa with less than 6 percent of the people living in urban areas (Europa 1985). The distribution of the population is very uneven, varying from 1 person per square kilometer in the arid regions to 51 people per square kilometer in the cities, of which Dar es Salaam is the largest. In an effort toward decentralizing the urban population, the government headquarters are to be moved to Dodoma in the center of the country by the end of the 1980s (United States Department of State 1981 p. 3). The climate varies with altitude, ranging from tropical in Zanzibar and along the mainland coast to semitemperate in the highlands.

Such geographic and demographic conditions have posed problems for educational planners in delivering equal educational opportunities to all segments of the population, in providing instruction in a language understandable to all learners, and in suiting the contents of education to the varied environments in which students live.

1. Background

European exploration of Tanganyika began in the mid-nineteenth century, with Germany winning control over the area until the First World War, when the territory was awarded to the United Kingdom. Following the Second World War, Tanganyika became a United Nations trust territory, moving gradually toward full independence, which was achieved in December 1961. When Zanzibar merged with Tanganyika in 1964, the nation was renamed the United Republic of Tanzania.

Since 1962, the government, under the leadership of its philosopher-educator President Julius K. Nyerere, has attempted to remodel the society's political-social structure toward attaining self-sufficiency, a policy focusing on development by the rural population under the motto "Education for self-reliance." Guidelines for the nation's future were set in the Arusha Declaration of 1967 by the country's sole political party, Tanganyika African National Union, (TANU), establishing a socialist state in which all major means of production are nationalized, including land, buildings, industries, and financial institutions. In addition, collective Ujamaa villages have been established as the basic production units for rural life.

The country's economic foundation is in agriculture, forestry, and fishing, which employ about 90 percent of the labor force and which contributed 41 percent of the gross domestic product in 1980. The small industrial sector includes food processing and textiles, with tourism an important source of foreign exchange. While the government has sought to implement a development policy that gives favored treatment to underdeveloped regions, the plan has not been entirely successful. The already developed areas of Tanga-Arusha, the coastal regions, Morogoro Iringa-Mbeya, and Mwanza Bukoba continue to grow at a faster rate, economically and educationally.

During the period 1972 to 1976, the nation suffered the effect of a prolonged drought and rising inflation. The government's third five-year development plan in 1976 set a 6 percent annual growth target, but the goal could not be achieved because of the effects of the

worldwide economic recession and internal problems. An austerity program was instituted in 1981, and economic conditions for the near future appear bleak (Europa 1982 p. 1525).

In sum, the government of Tanzania has distinguished itself among nations newly freed from colonialism for attempting significantly different alternatives to improve its socioeconomic condition, with the alternatives depending to a great extent on the success of educational innovations.

To understand the reasons leading to the adoption of the policy of education for self-reliance, it is important to review the development of education in Tanzania. As in nearly all other African nations, the first schools were established by Christian missionaries as early as the 1880s, when Germans took possession of the region and began to rely on mission schools to train a few favored Africans for positions in the colonial service. In addition, mission education aimed at adapting villagers to their place as peasant producers in an underdeveloped capitalist system of exploitation. The schools remained entirely under mission control until 1913, when the colonial government began to furnish financial subsidies (Hinzen and Hundsdoerfer 1979 p. 98).

When the British took over Tanganyika after the First World War, the educational system remained the same, with mission schools offering classes of one to two years' duration for teaching literacy, numeracy, and a Christian catechism in the vernacular. However, most Africans strongly resisted formal schooling, since they considered the colonialists' education to be an intrusion into tribal and family affairs. Attempts to localize the curriculum and reorient it toward vocational needs were met with resistance.

Despite opposition, colonial authorities opened additional schools, but the result after 30 years of British rule was that less than 10 percent of school-age children were in school (Cameron and Dodd 1970 p. 104). When the country attained self-governance, its leaders determined that the inherited schools were inappropriate for a newly independent nation and that the educational system required a reevaluation in order to fit the needs of a socialist political-economic structure.

2. Goals of Education and Education for Self-reliance

In 1967, after the country adopted the Arusha Declaration, the nation's president, Nyerere, criticized both the elitist intent and the lack of practicality of the colonial educational system. In a document entitled *Education for Self Reliance*, he called for the cultivation of socialist values and of self-reliance as the main educational goals. The principal components of education for self-reliance were those of making education relevant to rural life, changing students' negative attitudes toward agriculture and rural living, and eliminating the elitist bias of schooling. Nyerere proposed that the nation's educational system

must encourage the development of a proud, independent, and free citizenry which relies upon itself for its own development and which knows the advantages and the problems of cooperation. It must ensure that the educated know themselves to be an integral part of the nation and to recognize the responsibility to give greater service the greater the opportunities they have had. (Nyerere 1967 p. 25)

The year 1968 witnessed the first significant efforts to implement the new educational philosophy, and the second five-year national-development plan (1969–74) called upon the nation (Tanzania 1969 p. 148):

- (a) to achieve full self-sufficiency at all skills levels in the economy by 1980;
- (b) to give every Tanzanian child a basic primary education as soon as the financial circumstances of the government permit, which is presently planned to be achieved by 1989;
- (c) to provide additional or further education (secondary, technical, and university) only to the extent justified by the personnel requirement of the economy for development; further to support students by bursaries only in postsecondary courses which will produce specific skills needed for development.

Furthermore, each educational stage at both the primary- and secondary-school levels was to be planned as a terminal, complete preparation in itself for the pupil's future. After 1968, the entrance examination for standard 5 (grade 5) was abolished so that a child who entered standard 1 was assured of schooling for the full seven years of basic education (Hinzen and Hundsdoerfer 1979 p. 89).

An assessment of the progress of education appeared in 1974 as the Musoma Resolution, proposing that the universal primary-education target be moved forward from 1989 to 1977 and the school-entrance age be raised to 7 years so as to facilitate the child's entering the labor market upon completing primary school. The resolution also stressed diversification in secondary education through incorporating more practical studies in technical, agricultural, and commercial education.

The third five-year plan (1976–81) held to the course charted by both Nyerere's education for self-reliance and by the Musoma Resolution. But by this time, some measure of disappointment with the success of the educational effort was being expressed by the nation's leaders. By the early 1980s, the literacy rate had been raised to 70 percent, which was short of the 85 or 90 percent envisioned for 1980. Nyerere in 1977 had admitted that "I am becoming increasingly convinced that we in Tanzania either have not yet found the right educational policy, or have not yet succeeded in implementing it—or some combination of these two alternatives" (Nyerere in Hinzen and Hundsdoerfer 1979 p. 11).

3. Structure and Growth of Formal Education

The educational pyramid consists of a seven-year primary school (standards 1–7), four years of lower-secondary education (forms 1–4), a two-year pre-university course (forms 5–6), and tertiary education provided by the University of Dar es Salaam.

Primary schooling has expanded continuously since first introduced by the missionaries in the nineteenth century, with the greatest expansion in colonial times occurring just prior to the nation's achieving independence. Primary schools increased from 2,192 in 1954 to 3,238 in 1961, or by 48 percent, and the number of pupils by 76 percent (275,628 to 486,470) (Hinzen and Hundsdoerfer 1979 p. 88).

After independence, the government's interim economic development plan (1961–64) gave priority to the development of secondary and higher education aimed at training the human resources needed to take over the administrative positions formerly occupied by colonialists. The subsequent first five-year plan (1964–69) retained this emphasis so that it was not possible to achieve a rapid increase in primary-school enrollment. Nevertheless, the number of children attending public primary schools rose by 55 percent between 1962 and 1967 (from 486,470 to 753,114). Also, local authorities were encouraged to build more middle schools so that by 1968 over 40 percent of standard 4 pupils could find places in standard 5. In accordance with the country's policy of equal opportunities for schooling, these developments concentrated on districts which had less than 50 percent of classroom requirements for standards 1–4 and standard 5 (Hinzen and Hundsdoerfer 1979 p. 92).

The most significant educational progress since the introduction of the self-reliance policy and the abolition of school fees in 1972 has been in primary schooling. Between 1971 and 1975, enrollment increased by 76 percent (902,000 to 1,589,008), but the number of schools by only 7 percent (3,865 to 4,133). The growth in enrollment from 1971 to 1979 exceeded 256 percent (to 3,211,586), enabling 93 percent of the age group 7–14, as well as overaged pupils, to attend school (Omari and Sumra 1981 p. 180, Hinzen and Hundsdoerfer 1979 p. 93). It was estimated that over 95 percent of school-age children would receive at least seven years of education by the early 1980s (Europa 1982 p. 1526). By 1983, enrollments had increased by 11 percent to 3,552,923 and the number of schools had increased by 143 percent to 10,044 (Europa 1985).

In colonial times, the authorities—first German, then British—blocked the expansion of secondary and higher education for Africans. In the 1930s, junior secondary education in Tanganyika was introduced because the colonial government needed Africans to fill middle-level positions in the administrative structure. But by 1945 only one school had a program up to standard 12, with an enrollment of six pupils. After 1950, the British began to expand secondary education and to enroll a limited number of girls. By 1961, a total of 16,691

students were in secondary schools compared with 9,883 in 1957.

Under the independent Tanzanian government's first two development plans, secondary education was given priority over primary schooling in order to meet the needs of the labor market, with the curriculum designed to give pupils first-hand work experience in the early stages of an evolving cooperative society.

An enrollment of 33,288 students in 141 secondary schools in 1972 increased to 50,200 by 1974 (46,300 in forms 1–4 and 3,900 in forms 5–6) and reached 68,300 by 1978 (64,400 in forms 1–4 and 3,900 in forms 5–6). The enrollment in forms 1–4 represented 4 percent of the age group 14–17 on mainland Tanzania (Europa 1982 p. 1533, Omari and Sumra 1981 p. 180).

The slow expansion of secondary schools, especially since 1974, is due to the government's policy of limiting the growth of this sector of the educational system. Form 1 enrollment in public schools was limited by the second five-year plan to no more than a 30 percent increase per year, but this figure has been exceeded through growth in private-school enrollments.

By the opening of the 1980s, primary education was terminal for more than 93 percent of school children, who sometimes entered the primary grades between ages 8 and 10 and finished between ages 14 and 17 to enter the world of work. Thus, education at the secondary level has continued to be for a privileged few who are expected to bear weighty responsibilities to the community (Omari and Sumra 1981 p. 200).

During the colonial period, Tanganyika had no higher learning institutions. However, a few of the country's Africans attended Makerere College in Uganda, the Royal Technical College in Kenya, and overseas institutions, mainly in the United Kingdom. By 1959, there were only 70 Tanganyikan Africans with university degrees, 20 of them teachers.

At present, the nation's highest center of learning is the University of Dar es Salaam, established in 1970. The faculties of arts, commerce, law, medicine, engineering, and science are located in the city of Dar es Salaam, while the faculty of agriculture is 193 kilometers away at Morogoro. The university also operates a department of education for the preservice training of graduate secondary-school teachers. Enrollment at the university continues to grow rapidly, advancing from 2,200 degree and diploma students in 1976 to 2,800 by 1978. Since 1978 enrollments have continued to increase and rose by 42 percent in 1983 (Europa 1985).

Before the Musoma Resolution in 1974, admission to the university was based mainly on academic achievement as measured by national examinations at the end of form 6. However, since the Resolution, admission has been based on the quality of applicants' working experience over at least two years, including recommendations by their employers and political-party leaders.

Besides its general educational system, Tanzania provides opportunities for technical and vocational studies.

In the past, both the German and British colonial authorities introduced what they called "education for adaptation," a type of rural vocational training said to be the most relevant type of education for Africans, since the vast majority of them were agricultural producers. This policy was implemented in 1952 in the form of an agricultural syllabus for rural primary and middle schools. However, because of strong resistance from Africans, the program was withdrawn in 1959. Africans objected to the plan because it appeared to them to represent a perpetuation of the colonial social-class structure, dividing rural youth from urban students who were prepared for academic subjects (Hinzen and Hundsdoerfer 1979 p. 84).

In the early 1980s, the nation's educational enterprise offers a wide range of vocational and technical possibilities, both formal and nonformal, including two-year postprimary technical programs, folk development colleges with courses lasting from three to nine months, two-year commercial colleges, three-year technical and commercial colleges, and one- to two-year accountancy-management institutes (Omari and Sumra 1981 p. 180).

Following the Musoma Resolution, there was an expansion of postprimary craft centers offering a two-year program of occupational skills required by the expansion of the newly regrouped "planned" Ujamaa villages. These postprimary technical sections, launched in 1975, expanded to 275 by 1982 with an enrollment around 10,000, a growth that was expected to reach 340 schools and 17,000 students by 1985.

Four secondary technical schools with a total enrollment exceeding 2,500 provide a program consisting of 40 percent theory and 60 percent practical application in elementary civil, electrical, and mechanical engineering. Additional secondary training for 4,500 students is provided by such organizations as the National Vocational Training Division of the Ministry of Labour and Social Welfare, the Tanganyika African Parents Association, and the Mission Trade Schools. Also, training in middle- and lower-level management, accountancy, and commercial studies is furnished in a variety of institutions which cater for the specialized staffing needs of ministries, Ujamaa villages, and cooperative societies.

Considerable progress has also been achieved in adult education, which has been viewed since the establishment of the Republic as an important instrument for creating a socialist society with adults participating in the development effort. Adult education has been directed not only at producing a literate populace but also at developing better parents and citizens by improving living conditions and raising production. For example, a program of population problems and 98,000 teachers who explained population problems and ways of resolving them. Seminars, distance education, and mass-education campaigns with such slogans as "food is life" have been conducted, and 47 folk development colleges have provided postliteracy training and short-term courses in agriculture, mechanics, and basic

crafts. From the beginning, instruction has been provided by regular teachers, selected primary and secondary pupils, and other volunteers, using whatever local facilities are available, including schoolrooms after regular class hours.

4. Administration and Finance

The Ministry of National Education, in cooperation with such bodies as the National Advisory Committee on Education and the Ministry of Manpower Development, is the organizing force behind educational development. Until 1969, the Ministry of Education was concerned only with formal schooling, a condition that led to a sharp distinction between formal and nonformal education. Then, in 1969, significant steps were taken toward integrating formal and nonformal efforts, with adult education transferred from the Ministry of Rural Development and Regional Administration to the Ministry of Education, the move signified by the renaming of that body as the Ministry of National Education (Hinzen and Hundsdoerfer 1979 p. 58).

The Institute of Education, closely linked to the ministry, is heavily involved in curriculum development and in writing and testing materials for primary, secondary, and teacher education. The Institute for Adult Education is engaged in research and planning for adults and for the administration of mass radio study, group campaigns, and correspondence courses.

The Ministry of National Education is represented at the regional, district, divisional, and ward levels through its officers and coordinators. The ministry's district officers are responsible for both organizing and coordinating educational programs in their areas.

In the field of educational research, the ministry cooperates closely with the University of Dar es Salaam and the Tanzanian Library Service, with the library service's goal of establishing in the near future libraries from the national to the ward level throughout the country.

The finance of education is undertaken chiefly by the government, with schooling free of charge at all levels. Most schools receive state aid, except for those organized by missions and other voluntary agencies. Villagers are encouraged to build their own schools with government assistance and to operate their own literacy classes (Europa 1982 p. 1526). The proportion of the Tanzanian gross national product spent on public education has increased over the years, rising from 4.5 percent in 1970 to 6.4 percent in 1979 (UNESCO 1981). Educational expenditure for 1980-81 was estimated at 12 percent (Europa 1985).

5. Curricula and Teaching Materials

Since 1968, curricula and teaching materials have been designed to suit the plan for nationalizing education and promoting the goal of self-reliance. Social studies, history, geography, and civics materials are intended to

motivate pupils politically and to instill pride in their past, present, and future. Rural-living skills, agriculture, crafts, health education, and home economics courses have been introduced at all levels of the educational system in order to integrate school and community in pursuing the country's socioeconomic goals.

The language of instruction throughout the primary schools is Swahili, with the study of Swahili a compulsory subject in secondary education. A passing score in Swahili at the close of form 4 is necessary for a pupil to receive a form 4 certificate.

6. Evaluation and Certification

In 1971, the Ministry of National Education provided guidelines for what were termed new methods of evaluating students' progress, as the government sought to learn how well the educational goals of the social revolution were being achieved. The plan, which has been recommended but is still not universally applied by teachers, provides for three evaluation components.

First is the assessment of students' daily progress through exercises, tests, and projects. The emphasis on frequent tests and projects has been aimed at encouraging consistent daily study habits by pupils rather than having pupils motivated to study diligently only prior to the administration of infrequent national examinations. The ministry proposed that each subject in the curriculum carry marks that would be computed at the end of each of the year's two terms and then averaged at the close of the school year. The average grade for every subject is also calculated at the end of the secondary cycle's lower level (forms 1 to 4) and upper level (forms 5 and 6). The average of a pupil's daily marks counts for one-third of the overall evaluation of the pupil's progress.

The second approach consists of national examinations at the end of the seven-year primary school (the Primary Leaving Examination) and after forms 4 (for the National School Certificate) and 6 (the National Higher School Certificate). Prior to 1971 secondary-school examinations originated outside of Tanzania. Then, to gain more internal control over the examination system, the government in 1971 instituted its own national examinations, counting them as one-third of the total evaluation of a student's performance.

The third component of the evaluation scheme consists of records of students' attitudes, devotion to duty, and general behavior. The ministry has recommended that students be informed at the outset of their schooling of the importance of good behavior throughout life and that students be told that the assessment of their behavior in class, at play, on the farm or work site, and in dormitories will carry the same weight as their academic performance.

The ultimate assessment of a pupil's success is based on the entire record of the years spent in school. The three aspects of the evaluation scheme are given equal weight in the process of selecting students for further

study, training, or employment. A student earning a very low mark in any of the three categories is considered ineligible for further training and probably would not be awarded a certificate.

7. Supply of Teachers

The history of the teacher-supply program can be divided into colonial and postindependence phases. The colonial governments did not develop Tanganyikan education as the indigenous people would have wished, but colonial authorities did seek to improve the quality of teachers in ways that would maintain the educational system. For example, in order to control the quality of teachers trained for African schools, the British colonial government set up its African Teachers Examinations Board, which prepared training syllabi and the examinations taken by prospective teachers. Government-sponsored teacher training was organized along racial lines, with candidates trained to instruct children from specific ethnic groups. Missionary organizations also established training institutions to supply teachers for primary schools. By 1945, there were 1,100 student teachers in Tanganyika. However, no facilities were available to prepare secondary-school instructors, who had to be trained in neighboring Uganda until after independence.

Following the establishment of the Republic, teacher education was directed along a new course which matched the political and social goals set by the nation's leaders. Teachers for all levels of the educational hierarchy were to be dedicated to the Ujamaa concept of Tanzanian socialism, to the true welfare of their pupils, and to improving their own general education. In the case of primary-school teacher training, the curriculum areas to be covered included: national service with an emphasis on military training and nation building, Ujamaa political education, school organization, educational psychology, adult education, youth leadership, academic subjects, and teaching methodology.

The nation's primary-school teachers bring varied levels of preparation to their jobs. Some certificated teachers have completed the seven-year primary school plus teacher education. Others have finished the lower four-year cycle of secondary schooling plus teacher training. Diploma teachers, with six years of secondary schooling plus one year of teacher training, teach academic or vocational subjects in secondary schools. University-trained teachers also staff secondary schools, while outstanding ones are retained as instructors in the university. Special education teachers who work with the handicapped are prepared overseas. In 1983, there were 38 teachers' colleges in Tanzania with a total enrollment of 9,404 students.

With the introduction of the universal primary-education policy, the numbers of children entering school far exceeded the capacity of the teacher-training system so that emergency measures were taken to staff primary classes. One approach has been that of reducing the

length of teacher education by one year. Furthermore, the degree program for university-trained teachers has been compressed to permit candidates to follow education courses in parallel with their academic studies. Untrained teachers have also been employed, and are encouraged to attend institutions to acquire some training while they are in service. They are also urged to take correspondence courses, follow lessons broadcast over the radio, and learn from more experienced teachers.

As a means of raising teaching standards, inservice programs are offered in the form of workshops and seminars for classroom teachers. The nation's Institute of Education conducts such classes as well as developing curricula.

8. Future Problems and Prospects

In the coming years, Tanzania's educational planners face problems of finance, the level of teacher preparation, and methods of instruction in practical subjects.

The nation's continuing economic difficulties, which caused authorities to cut back on their national-development plan during the late 1970s, continue to retard progress in education. Inadequate facilities, a shortage of proper textbooks, and low teacher salaries that result from economic problems exert a negative influence on schooling.

The shortage of teachers occasioned by the introduction of universal primary education has resulted in a downgrading of teacher preparation. As a consequence, the quality of instruction in primary and secondary schools suffers. Thus, improvement in both the length and quality of teacher training, as well as increased inservice education, will be needed if the standard of schooling children receive is to be upgraded.

The introduction of practical topics, as in agriculture and in commercial and technical fields, requires the preparation of teachers with the special skills needed to offer efficient instruction in these subjects. More Tanzanian teachers require both methods of instruction and techniques of evaluation for guiding pupils' progress in the practical studies that are assigned such a strong role in the Tanzanian vision of a village-centered, socialist society.

Despite the introduction of universal primary education, Tanzania is still facing a problem in providing equal opportunities for all. There is a need to insure

that schools in different regions have, for example, equal financial assistance, equal access to learning materials, and the same calibre of teachers (Omari et al. 1983, Kiyao 1981).

Finally, the nation's leaders must continue to struggle with the matter of how to guide people's ambitions, attitudes, and talents so as to realize the ideals set for Tanzanian socialism. Will apt youths be content to return to village life following their schooling? Will teachers be satisfied to have their pupils prepared to leave school at the end of the primary grades with an education for village life, or will teachers continue to prepare the majority of their students for secondary education? Will the schools be able to match their output of workers to the evolving personnel needs of the society? These questions reflect key issues that demand the attention of the nation's educators over the coming decades.

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Thailand

S. Chantavanich and G. W. Fry

An education reform movement initiated in 1974 has significantly altered Thailand's school system. Today, more than nine million students are enrolled in primary

and secondary schools; and universal primary education is expected by 1986. Institutions offering specialized skills, open universities, and special nonformal

educational programs have been established to meet development needs. Despite regional disparities in educational standards and facilities, the teacher-pupil ratio in primary schools has improved dramatically. A new curriculum aims at education for life and society and utilizes a reformed, more flexible examination system. Thailand is currently attempting to reduce educational disparities, to promote greater decentralization in administration, and to work toward quality improvements and relevance at all levels of education.

1. Background

Thailand, meaning "land of the free" and formerly known as Siam, is a tropical Southeast Asian country approximately the same size as France. As one of the few developing countries never to have been colonized, Thailand's educational system has not been dominated by any foreign power and Thai is the language of instruction.

Thailand has a population of approximately 47 million (40 percent under 15). The 1950s and 1960s were characterized by rapid population growth of slightly over 3 percent per year, largely resulting from marked improvements in public health after the Second World War. The 1970s, however, have seen a rate of growth of approximately 2 percent with a further reduction of 1.5 percent expected by 1984. A major school-mapping project initiated in 1978 has already found striking drops in early primary-school enrollment resulting from the fertility decline.

Thailand has a stratified occupational and social class structure. Traditionally, high social prestige has been attached to government employment and the government sector has been the major source of employment for the more educated. Historically, social mobility has been high, but more recently socioeconomic background and the formal schooling which it facilitates has strongly influenced the allocation of individuals to highly desired modern-sector jobs (Fry 1980).

Agriculture is Thailand's largest and most important economic sector contributing to 27 percent of the gross domestic product (GDP) in 1978 and employing approximately 74 percent of the total labor force. Thailand's manufacturing sector, however, has been expanding rapidly and in 1977 accounted for 25 percent of national income. Trade involving import and export transactions constitutes approximately half of the national income (Office of the Prime Minister 1979 p. 169).

Thailand became a constitutional monarchy in 1932. Though having no political role, the current monarch, King Bhumibol Adulyadej, is widely revered and beloved for his strong commitment to the Thai people's welfare and to rural development.

Formerly, the government considered education as a means to foster national unity and to provide basic competencies in literacy and numeracy necessary for further schooling and/or employment. For the Thai

individual, schooling has been seen as a major avenue to social mobility.

Following the educational reform movement begun in 1974, in 1977, with the National Education Scheme, the goals of education were further broadened to include an appreciation of the relation between education, life, and society. In addition to the regular academic skills in the old curriculum, the new scheme placed special emphasis on instilling noncognitive learning and moral values (National Education Commission 1977 pp. 3-4).

2. Structure and Size of the Educational System

2.1 Formal Education

A new 6-3-3 structure of education was introduced in 1978. The major elements of the formal educational system are as follows.

The private sector and local communities are encouraged to set up kindergartens and early-childhood centers to serve local children throughout the country. Only 1.7 percent of all preschool centers are run by the Ministry of Education, and they are for demonstration and experimental purposes.

Primary education is free, provided universally by the government. It emphasizes literacy, numeracy, communication skills, and abilities relevant to future occupational roles. Major problems at this level relate primarily to quality and equality.

Secondary education aims to provide appropriate academic and vocational knowledge consistent with the learner's age, needs, interests, skills, and aptitudes which ultimately will be beneficial to the individual's career and to society at large. There are both public and private secondary schools. The government makes efforts to promote secondary education and to guarantee equal opportunities. More emphasis is now put on vocational training.

Higher education aims at the full development of human intellectual abilities, the advancement of knowledge and technology and the provision of the high-level academic and professional personnel needed for national development. Admission to major universities is based on performance in a competitive joint entrance examination. The increase in enrollment by levels of education from 1961 to 1980 is shown in Fig. 1. Pre-primary enrollment rose from 0.05 to 0.36 million; primary, from 4.09 to 7.45 million; lower secondary, from 0.25 to 1.35 million; upper secondary, from 0.08 to 0.58 million; and higher education, from 0.05 to 0.22 million (excluding 0.4 million enrollment in the open university) (National Education Commission 1980). Enrollment rates in 1980 were 13.5 percent for pre-primary, 95.7 percent for primary, 28.5 percent for secondary, and 3.4 percent for higher education. The aggregate ratio for all levels was 43.4 (National Education Commission 1980).

An overview of enrollment indicates that in 1978 the transition rate from primary to secondary was 62 percent

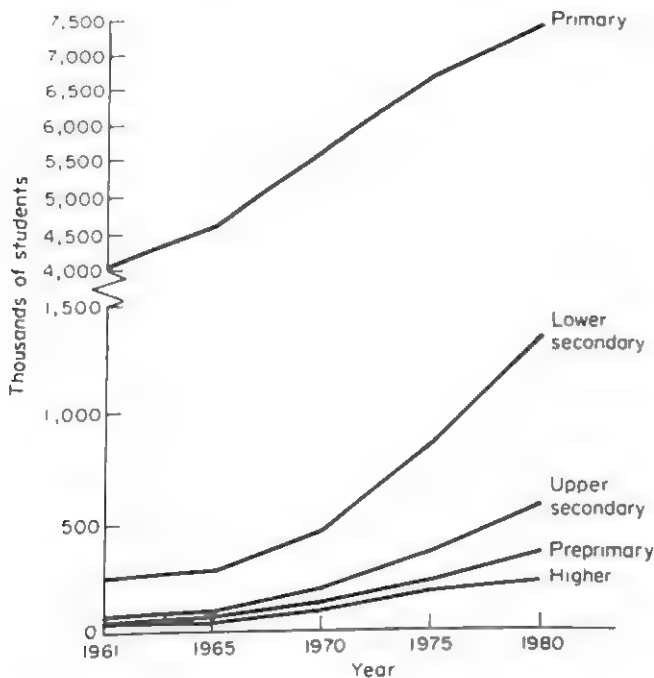


Figure 1
Enrollment by level of education 1961–80

and from secondary to tertiary was 39 percent (National Education Commission 1980). Thailand has successfully implemented numerous programs and measures to reduce disparity and inequality in education. The proportion of female enrollment is over 0.42 at all levels (National Statistical Office 1978).

2.2 Nonformal Education

Nonformal education started in the 1940s. Its primary aim was to develop and conduct literacy programs for adults over 15 years old who were not in the formal school system. Later on, vocational training became another prime objective when functional literacy programs were developed which related literacy to occupational skills. In the Thai nonformal education program, there has been emphasis on a process known as *khut-phen*, an approach designed to encourage harmony between individuals and their environments. *Khut-phen* means the process of critical and rational thinking and problem solving.

The Department of Nonformal Education is directly responsible for formulating nonformal educational policy. Also, several other ministries and departments conduct nonformal education. The following are examples of programs in nonformal education: (a) continuing education at five levels providing academic equivalency; (b) short vocational courses of up to 12 months, including, for example, mobile trade schools; (c) functional literacy, including critical thinking, problem solving, numeracy, and vocational subjects; and (d) informational programs such as village newspaper reading centers and public libraries.

In 1970, Thailand established an open-admissions university. More recently, in 1978, an open university utilizing a multimedia distance-learning system was founded. These institutions provide more opportunity for secondary graduates to obtain university education.

3. Administrative and Supervisory Structure and Operation

Four ministries were responsible for education until 1980. The Ministry of Interior (MOI) was in charge of nearly all primary schools in rural areas. The Ministry of Education (MOE), however, was responsible for secondary education, postsecondary vocational-technical education, and teacher training as well as providing supervisors and curriculum materials at both levels. The Office of University Affairs (OUA) which has ministry status, was responsible for university education. Finally, the National Education Commission (NEC), in charge of educational policy making and planning, is part of the Office of the Prime Minister.

The excessive centralization and complexity of the administrative structure became a major issue in 1974 with the establishment by the cabinet of the Educational Reform Committee. While the reform committee reviewed all aspects of education, a major focus was on the administrative structure of the Thai educational system. Basically, the reform committee called for unifying diverse educational organizations under the Ministry of Education and for greater decentralization of authority to the local level.

As a result of several political changes, enactment of some important parts of the reform was delayed. In October 1980, however, major administrative parts of the reform became law. Control of Thailand's roughly 30,000 rural schools was returned to the Ministry of Education, under the Office of the National Primary Education Commission (ONPEC) which is responsible for its policy making and planning. Actual day-to-day operations are controlled by 72 newly established Provincial Primary Education Commissions which have flexible control over placement of teachers and location of schools. Elected teacher representatives as well as appointed and ex officio members serve on the governing boards of both the national and provincial primary-school commissions.

4. Finance

Public support for education has increased from 1.9 percent of GDP in the 1960s to 3.3 percent in 1970. The private sector which accounts for 12.5 percent of total enrollment also contributes, but the exact amount is unavailable. The share of education in the total state budget has increased from 16.9 percent in 1961 to 19.4 percent in 1981. Currently, the education budget ranks second only to that of defense.

Table 1 shows the allocation of the national budget to all levels of education. Since the 1960s more than half

Table 1
Distribution of the national budget among levels of education (%)^a

Level	Year				
	1961	1965	1970	1975	1980
Primary	54.0	58.3	55.5	52.5	53.9
Secondary	17.9	11.9	12.3	13.5	16.4
Vocational	6.2	7.2	7.1	5.0	6.5
Teacher training	4.4	3.9	5.3	5.3	2.5
University education	8.2	10.4	12.5	14.4	14.5
Nonformal	0.5	0.4	0.8	1.1	1.8
Other	8.8	7.9	6.5	8.2	4.4

^a Source: Bureau of Budget 1961–1980 *National Annual Budget*. Bangkok

of the education budget has been devoted to primary education. A growing proportion of the education budget since 1965 has been allocated to secondary and higher education, reflecting the growing social demand for higher levels of education and the high demographic growth rates of the past.

In 1979, a new system was introduced for allocating primary school resources more equitably among provinces. Since nearly 98 percent of local primary school funds derive from central government, the national government could reduce regional disparities (Sudprasert et al. 1978). Under the new budgeting system, a wide range of key subnational educational indicators is used to allocate resources among provinces. The result is a noticeable reduction of regional disparities.

5. Teacher Education

Teacher training in Thailand is at the tertiary level with two major streams. Ten faculties of education in various universities produce teachers at the B.A. and post-graduate levels. There are 36 teachers' colleges as well as other colleges for physical, vocational, technical, agricultural education, etc., which are responsible for training teachers at the higher certificate and the B.A. levels. In 1978, some 13 percent of teachers had a B.A. or higher degree, 45.5 percent a higher certificate, and 4.8 percent vocational training. Relative to international standards, Thailand has a satisfactory student-teacher ratio at all levels of education. The highest is 27.7 at the kindergarten level and the lowest is 19.6 at the Ministry of Education primary level (National Education Commission 1980 p. 82).

The accelerated production of a large number of teachers to cope with the temporary short-term deficiency and population growth during the Third National Education Development Plan (1971–76) has generated a large amount of teacher and graduate unemployment. Thus, during the Fourth Education Plan (1977–81), training of teachers at the higher certificate level was progressively decreased. The decreasing production of

teachers affects severely the role of teachers' colleges. In contrast, given the great demand for vocational teachers, vocational teacher training is currently given highest priority.

A committee to coordinate and improve the quality of teacher training was established in 1979. The committee has proposed numerous recommendations such as the need for more selective criteria for the recruitment of instructors and students in teacher-training colleges, revision of curricula, and the promotion of research and development in teacher training. Most of the recommendations were incorporated into the Fifth Education Plan and some have already been put into action.

6. Curriculum Development and Teaching Methodology

School curricula have been modified in accordance with the new school structure. The Ministry of Education has major responsibility for the development of curricula at the primary- and secondary-school levels. University curricula are decided by individual departments with approval from the University Council for the undergraduate level and from the Office of University Affairs for the postgraduate level. Efforts are being made to emphasize relevance in curriculum development.

Primary education has an integrated curriculum comprising four learning areas: basic skills, life experience, character development, and work education. Since students' background experiences in the various parts of the country are different, a basically national core curriculum allows certain flexibility for regional diversification.

Secondary curriculum covers five broad fields: language, science and mathematics, social studies, character development, and work education. There is a wide range of exploratory prevocational subjects available. The use of a credit system facilitates flexibility in the teaching-learning process.

The Educational Techniques Department, with the assistance of cooperating agencies, is responsible for the production and improvement of learning materials such as lesson plans, textbooks, supplementary readers, and teachers' guides. As soon as the national teaching-learning materials are prepared, regional curriculum development teams study them and decide on the diversification and variation necessary to suit a particular region.

To ensure that new curricula are implemented, a number of steps are taken. Probably most important is nationwide, short-term, inservice training of teachers, level by level. Also, through the Free Textbook Program, the government publishes new instructional materials and distributes them to all schools. Finally, regular supervision as well as specific evaluations provide checks to ascertain the degree of compliance with standards.

Methods of instruction are generally suggested in the syllabus, and teachers are encouraged to keep abreast

of educational changes and new teaching methods. The ministry also sends out supervisors to work with school teachers to help them improve their teaching. Some teachers, however, are still accustomed to using traditional methods of "chalk and talk."

There are various problems related to curricula and teaching methods. The first problem involves limited school supervision, resulting from shortages in personnel and finance. The second concerns the inadequate availability of textbooks, equipment, and qualified teachers, particularly specialized prevocational teachers. The third is a lack of readiness for recent curricula changes which has affected the quality of schooling. At the university level, instruction in some areas is too often related to foreign texts.

7. Examinations, Promotions, and Certificates

Traditionally, Thailand's examination and promotion system was tightly structured with a major emphasis on end-of-year examinations to determine promotion to the next level of schooling, with examinations at grades 4, 7, 10, and 12 administered externally by districts, provinces, regions, and the Ministry of Education (Sudprasert 1977). Each of these grade levels determined a student's educational chances. Entrance to grade 11, particularly in prestigious government and private schools, and a joint university entrance examination remains highly selective.

Curriculum reform would not be effective without concomitant examination reform. Thus, grades 11 and 12 end-of-year external examinations were abolished in 1975-76 and 1976-77 (Sudprasert 1977). The new system emphasizes internal assessment and reduces emphasis on end-of-year examinations. In primary schools, a similar reform has occurred with an increased focus on the day-to-day accomplishment of specific behavioral objectives. As a result of the examination reform, promotion rates have tended to improve, resulting in a much more efficient educational system.

With respect to entrance examinations to upper-secondary schools and universities, the traditional achievement tests have been revised. Regional universities have also established specific quotas to ensure more even representation of students from the major regional areas. Employment opportunities, particularly in Thailand's modern sector, are significantly influenced by credentials (Fry 1980).

8. Educational Research

The establishment of the International Institute for Child Study in Bangkok in 1955 could be considered as the first institutionalization of educational research in Thailand. The institute, which has now become the Behavioral Science Research Institute, initiated some "basic research." However, over time it has devoted increased attention to applied research work.

It was in the 1960s that the Thai government began

actively promoting research. The Ministry of Education and the National Education Commission established research divisions working on practical problems such as curricula, tests, educational policy, and administration. Research topics were closely related to the specific functions of various departments.

Research began to be mentioned as one of the formal functions of the universities in the 1950s. It was not until 1974, when the Office of University Affairs introduced a new regulation requiring research work for promotion, that research activities became actively and systematically encouraged for the first time. Also the First National Educational Research Symposium in 1979 revealed that little had been done in the areas of research about research methods and action research. More research has been done in academic institutes than in ministerial offices (Saihoo et al 1981).

The research agenda for the 1980s as specified by prominent Thai researchers and academicians, includes research into: classroom realities; the means to achieve qualitative improvements in basic competencies with constant or diminished costs, given present resource constraints; and other problems in education beyond pedagogy, such as rural education, nonformal education, and national education for ethnic minorities.

With respect to research methodologies, two trends are emerging: the increased use of an interdisciplinary approach and the recognition of qualitative methods as a legitimate research approach.

9. Major Problems

During the decade 1970-80, Thailand achieved considerable success in quantitatively expanding primary, secondary, and higher education. Nearly all children now have access to a primary school near their village or home and increasing numbers of students are able to attend secondary schools and colleges. Also, the administrative system has become more decentralized. Despite such successes several major problems remain for the 1980s and 1990s, regarding issues of quality, relevance, equality, and educational resource allocation and finance.

Improving the quality of education and its relevance at all levels remains the major challenge facing Thai education in the 1980s and 1990s. Given Thailand's heavy dependence on imported energy, it will be difficult, if not impossible, to increase the share of the public sector's financial support for education. Thus, means must be found to increase private support. To achieve more equal access to quality education, it is important that educational resources be allocated with the greatest possible equity and efficiency. The new, more decentralized system of educational administration approved in 1980 and the nationwide school-mapping effort should facilitate such goals.

There will be, in the next two decades, a serious tension regarding issues of educational resource allo-

cation between short-term political pressure for educational expansion at upper levels and more rational long-term needs in accordance with Thailand's economic structure. Another concern is the absorption by the Thai labor market of rapidly increasing numbers of college graduates.

Thailand has achieved impressive success in providing the necessary quantitative expansion of schools to meet the needs of a rapidly growing population during the 1960s and 1970s. In the 1980s and 1990s, Thailand will have to deal with the even more complex problem of quality. Thailand's recent success in achieving significant fertility decline, together with its potential for reducing energy dependence, provides a positive climate for achieving quality improvements at all levels of education in the years ahead.

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Togo

P. Sonko-Godwin

The Republic of Togo on the west coast of Africa is bordered by Ghana on the west, Upper Volta on the north, Benin on the east, and the Bight of Benin on the Atlantic Ocean to the south. The country is 600 kilometers from north to south and between 50 and 150 kilometers east to west. Most of the territory is flat, sloping from the mountain range of Benin in the northeast to lowlands in the southwest.

In 1979, the population was 2.5 million with an annual growth rate of 2.6 percent. The greatest population concentration is in the south, where the Ewe make up the largest ethnic group. Among the 18 or more major ethnic divisions, those living in the south—particularly the Ewe—were quick to accept the education offered them by the European missionaries during the days of colonial occupation by Germany (until the First World War) and then by France (1914-60). As a result, prior to gaining political independence in 1960, and also during the postindependence years, top positions in government and in business were dominated by southerners. The ethnic groups in the north, especially the Kabre, rejected Western education in colonial times and thus remained isolated from socioeconomic modernization, with the result that strong ethnic rivalry between the regions continues to exist.

One aim of the present government is to eradicate regional disparities by improving communications and schools and by encouraging northerners to embark on more varied fields of study. As a consequence, today there are more public schools in the north than in the south, where private mission schools continue to predominate.

The nation's economy depends on agriculture and the phosphate industry, which was nationalized in 1974. Agricultural development is a top priority for government planners, since 85 percent of the working force engages in farming, even though only 11 percent of the land is under cultivation. The main cash crops are coffee, cocoa, groundnuts, cotton, and palm oil. Food crops include yams, cassava, maize, and millet, with livestock and fishing also contributing to the economy.

During the German colonial era, education was mainly in the hands of missionaries. In 1911, there were 315 elementary schools in the south operated by three mission groups and only two schools run by the government (Knoll 1978). When the French took over the colony during the First World War, they closed the German mission schools and opened their own, which numbered 13 government schools and 19 private schools by 1921 (Cornevin 1962).

1. Structure and Size of the Educational System

With independence (1960) Togo faced the challenge of educating the entire population. Even by 1970, only 16 percent of people over age 14 were literate. In seeking to make education broadly available, the country has adopted a schooling structure much like that found in France and in other French-speaking African states. Pupils spend six years in primary school, four years at a junior-high level, and three years in senior high school. In addition, at age 3 or 4, a child might enter a preschool or kindergarten.

In 1970, there were 9,414 children in 114 preschools, 42 percent of them girls. By 1967, the reported number of preschools was down to 89 with an enrollment of 5,458. Thereafter, enrollments rose so that by 1979 there were 106 preschools with 6,484 pupils.

The record of growth in primary schools demonstrated the government's interest in expanding educational opportunity as rapidly as possible. During the period 1970-82, the number of primary schools increased by 150 percent (from 916 to 2,291), enrollments grew by 115.5 percent (228,505 to 492,329), and the teaching staff by 161 percent (3,909 to 10,214). Slightly over two-thirds of the teachers in 1979 were men.

After six years in primary school, pupils sit for the *certificat de fin d'études primaires élémentaires* (CEPE) to establish whether they are eligible for an academic, technical, or vocational junior high school. The academic lycée offers a four-year course leading to the junior-high-finishing certificate, the *brevet d'études du premier cycle* (BEPC).

Students who obtain the BEPC can enter a three-year upper-secondary school to prepare for the *baccalauréat* which enables them to gain admission to higher education institutions. With a BEPC certificate, students may also enter a vocational or technical school for a period of one to three years and thereby become primary- or lower-secondary-school teachers, junior administrative officers, agricultural assistants, nurses, or the like.

In 1970, there were 22,080 pupils in junior and senior high schools, with 89 percent of them in the general academic track, 10 percent in vocational and technical courses, and 1 percent in teacher training. By 1979, the total number of students had risen by 179 percent to 127,894, with 94 percent in general academic studies, nearly 6 percent in vocational and technical programs, and less than 1 percent (300 students) in teacher training (UNESCO 1981). However, in 1982 the student enrollment of 119,106 indicated a drop of 8.5 percent (UNESCO 1984).

To obtain higher education, Togolese have studied abroad and, since the opening of the University of Benin in 1970 and postsecondary schools, at institutions within the region itself. In 1978, there were 1,682 students abroad, 1,199 of them in France, 157 in Senegal, 100 in the Ivory Coast, and the remainder in such countries as the Federal Republic of Germany, Canada, Egypt, and

Belgium. The University of Benin offers programs in law, science, letters, medicine, agronomy, economics and business management, education, and industrial mechanics. Postsecondary institutions such as Togo's *Ecole Nationale d'Administration* have also been established in the region to provide two-year courses in administration, finance, and justice. In 1979, higher learning institutions within the country enrolled 3,638 students.

2. Administration, Planning, and Finance

The conduct of education and scientific research in Togo is the responsibility of the Ministry of National Education, which cooperates in certain projects with such parallel bodies as the Ministry of Youth, Sports, and Culture.

One of the main thrusts in educational planning, particularly since the mid-1970s, has been to increase the attention given to art, crafts, and culture at all levels of the school system. An average of five hours a week in secondary schools and nine hours a week in primary grades have been allocated for teaching art, music, dancing, and crafts, particularly to provide skills for those pupils not adept at such academic subjects as mathematics, physics, and geography. The government has also sought to increase national identity and unity by teaching such major indigenous languages as Ewe and Kabre in primary and secondary schools and by directing some effort to developing such minor languages as Tem, Ben, and Ncem.

In the realm of educational finance, the 1970s witnessed an increase in government expenditures on schooling by 738 percent, again attesting to the increasing effort the nation has made to extend educational opportunities to a greater proportion of the population.

3. Teaching Personnel

Togo is one of the few former French African colonies in which indigenous inhabitants form the core of the teaching staff. The early practice of the Germans to train Ewe as teachers was continued when France took over during the First World War. Thus, at the time of independence in 1960, there were substantial numbers of Togolese already in teaching posts. However, today there are still teachers imported from France and other countries, particularly to give instruction at the university level.

At present, primary and lower-secondary teachers continue to be trained in teacher-training institutes and colleges. Upper-secondary teachers and lecturers are required to hold a licence or degree from a recognized higher education institution.

In summary, since Togo achieved political independence, the nation has recorded steady progress in educational development and has earned sufficient

ondary schools more completely with Tongans. Some of the most able Tongans who, after completing their secondary education in the islands, go overseas for university study find life abroad more attractive and do not return to the islands to serve as secondary-school teachers. As a result, expatriates must still be used as instructors, and they typically return to their homelands after a brief tour of duty in Tonga.

Additional problems related to inadequate funding are those of keeping buildings in repair and of constructing new ones with modern facilities. Furthermore,

books and equipment are in short supply, so that the materials teachers and students need to bring education to a satisfactory level in terms of quality are too often missing.

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 UNESCO 1984 *Statistical Yearbook*. UNESCO, Paris

Trinidad and Tobago

J. Reay

Trinidad and Tobago consists of two small islands and a few mostly uninhabited rocks at the southern end of the Caribbean chain. Lying on the South American continental shelf, Trinidad has deposits of oil and natural gas as well as the famous Pitch (asphalt) Lake. The climate is oceanic and equable.

Now a republic within the Commonwealth, Trinidad and Tobago had been a joint United Kingdom crown colony from the end of the nineteenth century until independence in 1962. For most of the nineteenth century, the islands had been separate colonies. Earlier still, Trinidad was a Spanish colony for three centuries, while Tobago changed hands many times among the Dutch, French, and British. Virtually the only remaining traces of the former occupying powers are the ethnic character of the population and the British influence in systems such as those of government, education, and law.

According to estimates for 1980, the population of 1.2 million has an annual growth rate of 1.3 percent and a population density of about 200 per square kilometre. Only 4 percent of the population lives in Tobago, which is more rural than Trinidad. Only 27 percent of the population is under 15 years old, while 5 percent are over 65.

Although Trinidad and Tobago is a multiracial society with some miscegenation, it is still possible to identify two dominant ethnic groups, of African and Indian descent, each representing approximately 40 percent of the population. The Africans came as slaves, and the Indians as indentured labourers following Emancipation in 1834. Under Spanish rule a French creole aristocracy from French possessions in the Caribbean came to live in Trinidad. Trinidad is much more multiracial than Tobago, whose population consists almost entirely of the descendants of African slaves. The indigenous Arawak and Carib populations became virtually extinct under Spanish occupation.

Trinidad and Tobago is a multireligious society committed to religious freedom. The major faiths are Roman Catholic (36 percent) and Hindu (25 percent)

(1970). Most of the elite schools were established by religious denominations.

There is no official, and little social, sexual discrimination. Official unemployment figures for 1981 were 14 percent for females and 9 percent for males, though these conceal a large number of welfare jobs. Many couples engage in shifting sexual partnerships, and families are unstable. The responsibility for children rests with the women.

The official language is International Standard English. The common language, a dialect of English, is a stable structure with elements of French, Spanish, Hindi, and African languages. Interference of language patterns is a problem in education.

With an economy based largely on petroleum and natural gas as sources of energy and raw materials, Trinidad and Tobago is committed to scientific and technological development and labour-intensive industries. At the same time, the drift from the land and food production is cause for concern. While the fishing and poultry industries are expanding, sugarcane production is declining. The gross national product per capita in 1981 was close to US\$6,000.

1. Goals of Education

The major goals of education are the elimination of socioeconomic disadvantage, racial integration, a broad-based general education for at least 9 years, schooling for all for at least 11 years, and the provision of foundations for a workforce in an industrial and technological economy. More immediate aims are remedial education in reading and mathematics, upgrading physical facilities in primary schools, retraining teachers, and expanding guidance counselling.

2. Structure and Size of the Education Effort

The formal educational system has three levels, as shown in Table 1. Government-assisted schools are

Table 1
Formal educational system, 1982^a

Level	Type	Number		
		Government	Government-assisted	Registered private
1	Primary	115	351	208 ^b
2	Secondary			
	2-tier system			
	3-year junior secondary	23 ^c	—	—
	2-year senior comprehensive	17 ^d	—	—
	1-tier system			
	5-year secondary	17 ^e	8	96
3	7-year secondary	5	22	—
	Vocational, pretechnical	12	—	—
	Technical	3	—	—
	Teachers' colleges	2	—	1
	University	—	1	—

a Sources: Ministry of Finance Central Statistical Office and Ministry of Education. Excludes schools for the handicapped, schools within corrective centres and orphanages, the law school, the hotel school, the institute of languages, nursing schools, and similar specialized institutions. b Includes nursery schools and kindergartens. These schools tend to monopolize the free secondary-school places. c Almost all are double shift, in effect each comprising two schools. 12 single-shift schools are under construction or planned. d A few provide optional third and fourth years. Two more are at the planning stage. e Includes three composite schools with comprehensive-type curricula; others are planned.

those managed by religious organizations and almost entirely funded by the government. Nationals attending any government or assisted institution receive free education. School children also receive a book grant and free travelling. All children in some schools are supplied with free and nutritious lunches. There are no means tests in education. Fees are payable at private schools, about which little information is available. In spite of the government's aim to achieve socioeconomic levelling, there is a hierarchy among schools, so that many parents choose to pay for schooling rather than send their children to the schools to which they are assigned.

Attendance at primary school is compulsory for all children in the 6–12 age group, although traditionally children enter school at age 5. Since there are few government-financed schools for children aged 3–5, early education is denied to most of those from disadvantaged homes. Special education also receives minimal attention.

At age 11–12, children sit the Common Entrance Examination (CEE), a mechanism for selecting the 80–90 percent for whom there are free secondary-school places. The number of entrants to such places rose from 5,076 in 1971 to 18,386 in 1981 and will increase substantially, as a number of junior-secondary schools are under construction or planned.

Children who are unsuccessful, if they do not drop out or attend private secondary schools, continue in postprimary classes attached to the primary schools. If they are successful in the School Leaving Examination at 14+, they may seek employment, join an appren-

ticeship scheme and attend evening classes, or pursue a craft course at a technical institute or vocational centre. Free schooling is therefore available to all from 5 to 15 years of age.

The constitution of the republic and a concordat between church and state guarantee some freedom of choice of schools. Placement in secondary schools is achieved by a complex process involving the Common Entrance Examination mark, parental choice, sex, religion, and residence. The system tends to perpetuate social and educational inequality. Enrolment in government and assisted secondary schools is shown in Table 2, in which types of school are listed in approximately ascending order of social esteem. The junior-secondary/senior-comprehensive route, though providing the best material facilities, will be the last choice for most parents and will take students with the lowest examination marks. As teachers have difficulty in dealing with slow learners, the needs of these children are inadequately met.

Conceived in a period of austerity, junior-secondary schools normally have two shifts, each shift having its own teaching staff and 960 children in classes of 40. The curriculum is intended to provide a broad-based general education in preparation for specialization at the senior-comprehensive schools, to which most of the pupils will automatically be transferred. A few are assigned to the five- and seven-year schools, where they are generally grouped together as a slow class.

In the five- and seven-year schools, and in one band of the senior-comprehensive schools, curricula are con-

Table 2

Enrolment in government-financed secondary schools by school type, 1979^a

	Male	Female	Both	% female
Junior secondary (3 years)	19,251	19,365	38,616 ^b	50.1
Senior comprehensive (2-4 years)	6,545	6,612	13,157 ^c	50.3
Government (5 and 7 years)	6,796	7,093	13,889	51.1
Assisted (5 and 7 years)	8,918	9,321	18,239	51.1
Total	41,510	42,391	83,901	50.5

a Source: Ministry of Finance Central Statistical Office b 1982 estimate is 42,000 c 1982 estimate is 27,000

ventional, leading to the Cambridge Certificate of Education (GCE) Ordinary (O') level (or a Caribbean certificate—see Sect. 4) and Advanced (A') level. However, the senior comprehensives, which are extremely well-equipped and normally have 1,564 children each, emphasize new two-year programmes of training in pretechnician, commercial, general industrial, and limited specialist craft fields. For children in these bands, general education has ended owing to personnel needs for industrial expansion, as conceived in the 1970s.

At least in secondary schools, streaming is now uncommon, although the higher achievers are encouraged to specialize in science. Promotion up the school is automatic. Enrolment by year and sex is shown in Table 3. The bottom-heavy pattern is due not so much to dropout as to steadily increasing expansion in school places. However, not all children qualify by achievement for entrance to the sixth and seventh secondary years: and some who do qualify transfer to the sixth-form college (not included in the tables). It is apparent from Tables 2 and 3 that there are equal opportunities for females. Nearly all government schools are coeducational, while the opposite is true of denominational schools.

As with the last two years of seven-year schools, the Sixth Form College (a government institution) is confined to courses leading to GCE A' level. It serves

young people aged 16+ who are unable, or do not choose, to find places in the sixth forms of seven-year schools. Its geographical location, however, is inconvenient for students from most parts of Trinidad and impossible for those from Tobago.

Qualified school leavers may attend training institutions. Enrolment is shown in Table 4. The sex bias, which is striking here, is due to social attitudes, not official policy.

Table 4

Enrolment in national training institutions, 1979^a

Course	Male	Female	Both	% female
Craft	5,771	2,316	8,087	28.6
Technician	4,076	490	4,566	10.7
Teachers' colleges ^b	167	538	705	76.3
Agriculture ^c			65	
Forestry ^c			26	

a Source: Ministry of Finance Central Statistical Office. Excludes youth camps, trade centres, secretarial schools, and similar training institutions provided by private and industrial bodies b Includes two denominational colleges c Eastern Caribbean Institute of Agriculture and Forestry; excludes nonnationals enrolled

Table 3

Enrolment in government-financed secondary schools by year, 1979^a

Year	Male	Female	Both	% female
1	9,541	9,473	19,014	49.8
2	9,052	9,268	18,320	50.6
3	8,880	9,007	17,887	50.3
4	6,418	6,562	12,980	50.6
5	6,437	6,869	13,306	51.6
6	563	522	1,085	48.1
7	619	690	1,309	52.7

a Source: Ministry of Finance Central Statistical Office

The single university is one of three campuses of the regional University of the West Indies, whose degrees are recognized worldwide. Current expansion in the faculties of education, engineering, and medicine are priorities of the government of Trinidad and Tobago. In most faculties, undergraduate enrolment of female nationals is 45 to 55 percent; however, the proportion is only 16 percent in engineering and over 60 percent in arts (1981).

Nonformal education includes evening classes in schools and a variety of programmes provided by the university extramural department. The government provides radio programmes for schools and the general public and in 1983 it was announced that a television channel would be devoted to information and education. Although there is a high level of activity in the creative arts, it is all nonformal (except for what goes on in primary and secondary schools).

3. Administration, Supervision, and Finance

The Ministry of Education is responsible for most of the government institutions shown in Table 1, although some training institutions come under other ministries. Denominational schools have boards of management. A National Institute of Higher Education (Research, Science, and Technology) is proposed to coordinate some 16 institutions, excluding the university.

Within the Ministry of Education, the supervisory service covers government schools and teachers' colleges and assisted schools. As well as district primary supervisors, there are curriculum supervisors, with responsibility for all levels, and senior supervisors. Although syllabi are more or less prescribed, schools are generally free to select their own approaches, textbooks, and other resources.

The largest slice of the national budget goes to education, the proportion of recurrent expenditure being 16 percent in 1981 and 15 percent (approximately US\$350 million) in 1983.

The University Grants Committee receives contributions from many Caribbean governments. Special projects such as the Diploma in Education are funded by grants from the national government.

Although undergraduate courses are free to all nationals admitted, a number of meritorious school leavers at 18+ receive scholarships tenable abroad if the desired course of study is not provided locally. The Student Revolving Loan Fund assists others in need.

4. Teachers, Curriculum, and Examinations

Except in private schools, teachers are selected and appointed by the Teaching Service Commission. Professional training is not yet a requirement; indeed only teachers in service currently qualify for admission to training courses at the government colleges and the university. However, all primary teachers have now been trained in two-year courses, so that the last assisted college closed in 1982 and the government colleges are turning to retraining. University certificate courses in reading and mathematics for trained primary teachers are planned for 1983.

In secondary schools, the majority of teachers remain untrained. As well as expansion of current postgraduate courses, joint first-degree courses are at the planning stage. Technical/vocational courses introduced in 1975 met an acute problem. The temporary solution has been to assign parts of the courses (e.g., craft English, auto/diesel science) to conventional teachers, to appoint skilled technicians as teachers of the practical aspects, and to provide the latter with day-release teacher-training courses at a technical institute.

All primary and some secondary teachers are without degrees, although not without educational qualifications. As most of the university graduates become teachers, there is no serious teacher shortage except in physics.

Curriculum development by "headquarters teams" has been limited to primary and secondary integrated science and social studies and to modular materials for technical/vocational studies. Except for the first (1968), which is due for revision, all are ongoing and long-term developments.

Infusion and integration across the disciplines are encouraged by modules under development by the Institute of Marine Affairs and by an annual oil-education activity. Although even the primary curriculum is still timetabled by subjects, it is apparent that emphases in curriculum development have been on achieving a less discipline-centred curriculum.

Every stage of schooling ends with a public examination, influencing practice more than in most similar countries. A notable exception is the junior-secondary schools, from which promotion is automatic, so that little notice is taken of the 14+ examination. Most harmful are Common Entrance Examination at 11+ and GCE at 16+ and 18+.

So formidable a hurdle is the Common Entrance Examination that, for most children, general education ends at around 7+ and is replaced by drill in English language and arithmetic. The introduction of science and social studies into the examination from 1982 is an attempt to reduce this problem. It is not likely to disappear until there is equal opportunity for all at secondary level, an extremely remote prospect given the hierarchy of elitism which has developed from history.

At the secondary level, there is prospect of improvement with the phasing in since 1979 of the Caribbean Examinations Council (CXC) for the same age group as GCE O' level. Innovative in syllabus development, syllabi, examining, marking, certification, and outreach to educators, the Caribbean Examinations Council has already had a significant impact on perceptions and teaching. Its weakness lies in the fact that it does not attempt to cater for the lower 60 percent of the ability level at 16+. For these, national solutions must be found.

5. Research and Major Problems

Research has not received the same priority as outreach, teacher education, and upgrading curriculum and methodology. Although there have been substantial studies in linguistics and values perception, most studies have been short, small, and/or uncoordinated. However, the rapid expansion of educational opportunity and the diversification of curricula over the 1970s now make data collection imperative.

Within sight are solutions to such logistic problems as inadequate physical accommodation in primary schools, overcrowded junior-secondary schools, insufficient professional training, an uncoordinated multitier system, and lack of school places for all to 16+. Schooling for all from 3 to 18 is also foreseeable. Problems likely to remain for most of the rest of the century are weak language skills, innumeracy, too early specialization,

inequality in education, too content-centred curricula, and other outcomes of confused social perceptions, attitudes, and values.

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Tunisia

C. Tibi

The Republic of Tunisia achieved independence in 1956 after a long period as a French protectorate, officially from the signing of the Treaty of Marsa (1883). According to the terms of the 1959 Constitution, Tunisia is a free, independent, and sovereign republic in which legislative power is exercised by a national assembly elected for five years by direct universal suffrage. The president of the republic is the head of state as well as the head of the executive.

The territory of Tunisia covers an area of 163,610 square kilometres (63,170 square miles) bordered by Algeria on the west and southwest and by Libya on the southeast. At the last population census (May 1975), the population count was 5,588,000 inhabitants, and it was estimated that the population reached 6,577,000 in 1982. Population density, therefore, in 1982 was in the range of 40 inhabitants per square kilometre, but the majority of the population is concentrated in the towns and the rural areas of the coastal regions; the land in the south and centre of the country is semidesert and infertile. Although half the population resides in the urban zone, at the time of the last census only 20 percent of the total population was to be found in the nine main towns (Tunis, Sfax, Djerba, Sousse, Bizerte, Kairouan, Gafsa, Gabès, and Béja). For the intercensal period (1966–75), the gross demographic growth rate was 2.6 percent per year. The estimated population growth rate for the period 1976–86 is 2.4 percent. The population under 15 years of age is estimated to be about 40 percent of the total population.

Over the past 10 years, Tunisia has experienced significant and sustained economic growth. The gross domestic product (GDP) in constant prices increased on average by 8 percent per year between 1970 and 1980. Per capita gross national product was estimated at US\$1,240 in 1980, an increase in real terms of about 70 percent since 1970. This trend is a result of various

factors: the development of oil production and the rapid increase of resulting public resources; the development of agriculture, manufacturing industries, construction, and service industries (particularly tourism). In 1979, service industries constituted 26.3 percent of GDP, agriculture 13.2 percent, the public sector 11.6 percent, manufacturing industries 10.4 percent, and the oil industry 7.7 percent. The national accounting aggregates showed, towards the end of the 1970s, a relatively small commercial deficit (exports covering 80 to 85 percent of imports), global consumption representing 72 to 73 percent of all resources, and gross fixed capital formation absorbing 26 to 27 percent of resources.

Unemployment and underemployment remain the most serious problems despite improved results at the production level. In 1979, the population of active age (15 to 64 years) was estimated at 3,476,000 persons and the active population at 1,838,000 persons of whom 1,566,000 were in employment. The unemployment rate was therefore in the region of 13 percent in 1979, compared to slightly over 10 percent in 1969; this figure does not, however, take into account the significant level of underemployment which prevails in the rural areas. It was estimated that the creation of new jobs had absorbed around two-thirds of new job-seekers in the late 1970s, when the possibilities of emigrating to Europe or to other Arab countries were diminishing rapidly. Agriculture accounts for approximately 35 percent of all jobs, manufacturing industries for 20 percent, the public sector for 14 percent, and service industries for 11.5 percent.

1. Goals of the Educational System

Education has always been a top priority of the Tunisian authorities. Shortly after independence, the basic principles of government policy in this field (and, in particu-

lar, concerning first-level education) were laid down in the Educational Reform Act (1959). The principal features are as follows: providing access to development, by promotion of the individual; democratization and generalization of education; providing equal opportunities; protection and promotion of national cultural values; encouraging an opening-up to modern culture and a willingness to accede to the technological civilization; and training skilled personnel according to the needs of development (Ministère de l'Education Nationale 1981).

Moreover, the Educational Reform Act provided for the gradual integration of Moslem religious education into the public system, although the French Cultural and University Mission as well as the private-education sector were allowed to continue to exist. These last two networks are of very limited importance and in 1980–81 accounted for only 1 percent of first-level enrolments and 6.7 percent of second-level enrolments.

2. Structure and Size of the Educational System

Figure 1 presents the structure of education. First-level education is free and all children have the right to it. Admission takes place at the age of 6, and in 1982–83 180,069 children (97,506 boys and 82,563 girls) were admitted for the first time to primary education, giving apparent admission rates of 105.0 percent and 93.3 percent for boys and girls respectively. If we compare the 1960 and 1970 figures (Tibi 1974), the admission rates for boys were respectively 77.1 percent and 96.1 percent, whereas for girls the rates were 37.5 percent and 68.0 percent. Education officials affirm that "all children of school age who are brought to school by their parents are enrolled" (Ministère de l'Education Nationale 1981), but it is certain that the access of girls to first-level education is not yet universal. Very considerable progress has been made, however, since independence. In 1979, net enrolment rates for the 6–

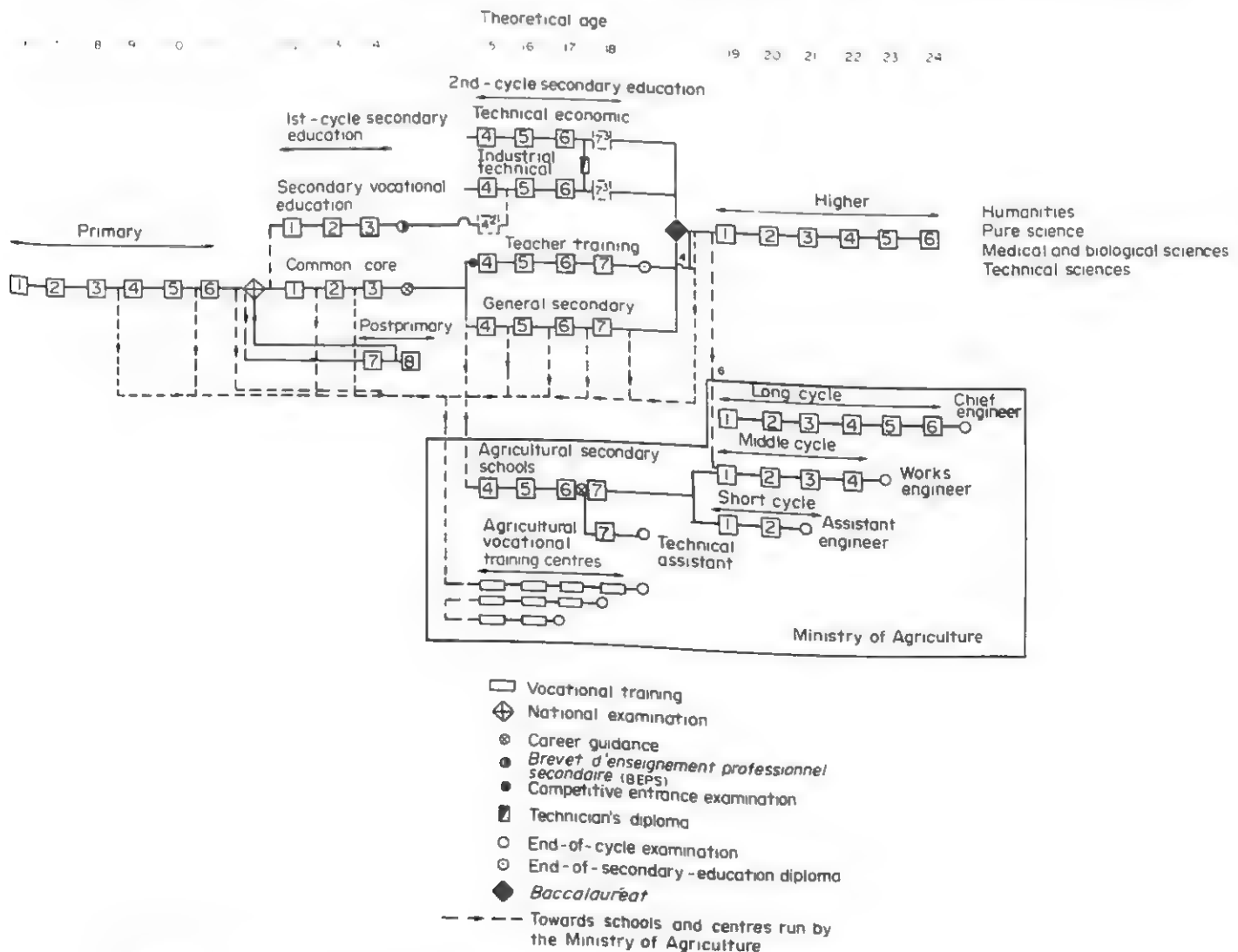


Figure 1
Structure of the educational system

11 age group were 92 percent for boys and 70 percent for girls.

In the first four years of primary education, dropouts are relatively few, varying between 2 and 5 percent depending on the grade; at the end of grade 5, however, dropouts reach 25 per cent and at the end of grade 6, 27 to 28 percent. In addition, the number of repeaters is high (16 percent to 18 percent in the early grades and 34 to 35 percent by the end of grade 6). It is estimated that in the late 1970s approximately 26 percent of the children enrolled in grade 6 of primary school passed the competitive entrance examination to secondary education, but this rate increased suddenly in 1980 to 39.4 percent and to 46.5 percent in 1983. There is no clear explanation for this trend.

The educational authorities attribute it to an improvement in pupil standards. Such an improvement seems to be a consequence of measures taken with regard to curriculum, textbooks, and teacher training and to the reorganization of examination conditions. The children who fail this competitive examination are "either allowed to repeat grade 6 or are admitted to a post-primary structure, created in 1977 (and not part of secondary education), which includes a 7th and 8th grade of professional training" (Ministère de l'Éducation Nationale 1981).

The children who pass the entrance competition are oriented towards long secondary education, provided they are under 15 years of age, and towards vocational training, if they are aged 15 or above. In the late 1970s, just over 60 percent of children were admitted to long secondary education and a little under 40 percent to vocational education. At the end of the common core of three years, which constitutes the first cycle of long secondary education, approximately 85 percent of all pupils are admitted into the second cycle; slightly over a quarter of these are oriented to technical courses (industrial studies or economics), the remainder continuing in general upper-secondary education (in the arts, mathematics and science, or mathematics and technical science sections).

Generally speaking, dropouts during the cycles remain very low (about 2 to 6 percent in the second cycle, depending on the year and the section), with the exception of the mathematics and science and the mathematics and technical science sections, where the dropout rates reach approximately 10 percent in the fifth and sixth years. At the end of each cycle, on the other hand, the dropout rates are notably higher, in particular because of the conditions of entry to the second cycle and of the *baccalauréat* examination, which completes long secondary education and is the condition of entry to higher education.

In 1983, the number of pupils who passed the *baccalauréat* was about 8,500, which corresponds to an overall success rate of 38.0 percent, if all the sections are taken together (the rate is much higher in arts and much lower in mathematics).

Almost 4,000 young people each year gain the Tech-

nician's Diploma which completes the technical second cycle, and 12,000 to 14,000 students obtain the Certificate of Vocational Education. The number of students who obtain the diploma of primary teachers at the end of teacher training in secondary specialized schools is in the range of several hundred each year; this number depends on the requirements for new primary-school teachers.

Higher education is very diversified and includes a large number of institutions which are the responsibility of the Ministry for Higher Education and Scientific Research (MESRS) and of other ministries, notably those of Agriculture, Public Health, and Social Welfare. The institutions which are attached to the Ministry for Higher Education and Scientific Research are grouped into five sectors:

- the pure science sector (Faculty of Science at the University of Tunis, the science section of the Higher Teacher Training College or *Ecole Normale Supérieure—ENS*);
- the humanities sector (Faculty of Arts and Theology, the arts section of the Higher Teacher Training College);
- the medical science sector (Faculty of Medicine, Pharmacy, and Dentistry);
- the social sciences sector (Faculty of Law and Economics, Advanced Institute of Commerce, etc.); and
- the technical science sector (National Colleges of Engineering, Higher Technical Institute, Higher Technical Teacher Training College or *Ecole Normale Supérieure de l'Enseignement Technique—ENSET*).

In 1984–85, the total number of students in higher education was around 38,800; the students enrolled in Ministry of Higher Education institutions accounted for 90 percent of total enrolment in higher education. To this figure should be added Tunisian students studying abroad; in France alone there were approximately 9,500 in 1977–78.

Slightly over 4,900 students obtained a higher education diploma in 1980, of whom approximately 3,600 were under the Ministry of Higher Education; for 3,300 of them, the diploma marked the end of the long cycle of higher education and for 1,600 the end of the short cycle. Figures 2 to 4 present enrolment developments from 1960 to 1985 for primary, secondary, and higher education.

All agricultural education is the responsibility of the Ministry of Agriculture and can be grouped into three categories: (a) agricultural training centres (with 2,000 to 2,500 pupils each year, not including farmworkers receiving refresher or inservice training); (b) agricultural secondary schools (with around 1,500 pupils); and (c) higher institutes (offering short, medium, and long courses). The first two educational levels provide

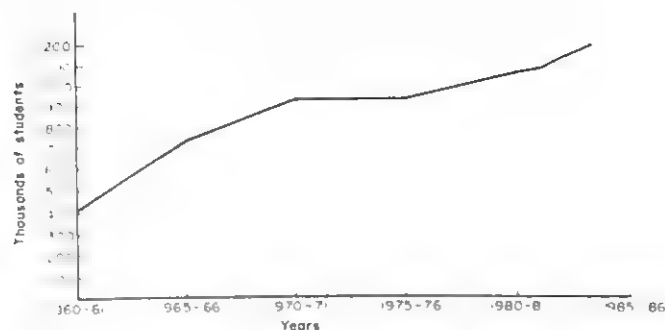


Figure 2
Primary-school enrolment 1960-85

a very wide range of training activities, which also respond satisfactorily to the needs of the agricultural sector.

The Ministry of Health runs about 15 institutes where nurses, assistant dispensers, and laboratory and radiologist technicians are mainly trained. Conditions of entry range from completion of the fourth year of secondary school to gaining the *baccalauréat*, and the duration of studies ranges from one to three years. The total number of students enrolled annually in these institutes is about 4,000.

The Bureau for Tunisian Workers Abroad, for Employment, and for Vocational Training (OTTEFP), which is part of the Ministry of Social Welfare, controls a very large number of vocational training centres and higher training institutes. These centres and institutes allow for the provision of a very extensive range of training courses for the industry, building, and services sectors. Entry requirements vary widely, from the completion of primary education to gaining the *baccalauréat*, as does the length of training. In all, more than 18,000 students were enrolled in 1978 in the bureau's training institutions or received an on-the-job training controlled by the bureau.

Other training activities are run by a large number of very different institutions, including the National Office

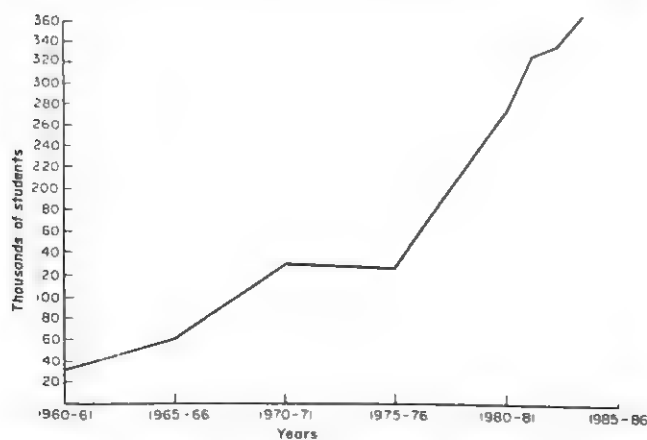


Figure 3
Secondary-school enrolment 1960-85

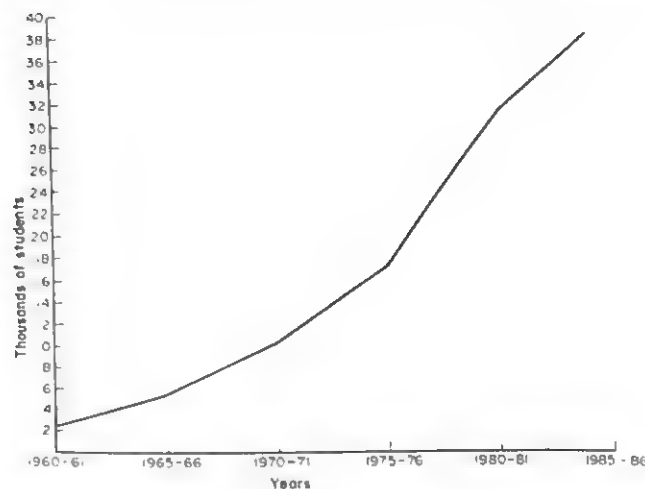


Figure 4
Higher education enrolment 1960-85

of Handicrafts, the National Union of Tunisian Women, and the Programme for Rural Development.

3. Administration and Finance

The Ministry of National Education is composed of a central administration and regional services. The central services can be divided into four groups: the programme and education departments (Department of Educational Programmes, Department of Primary Education, Department of Secondary Education, and Department of Technical and Vocational Education); the departments of planning, statistics, organization, and information; the departments for administration and finance (General Secretariat, Personnel Department, Department of Financial Affairs, Inspectorate for Administrative and Financial Services); and common services (Underdirectorates for External Affairs, Documentation and Archives, National Pedagogical Centre, etc.).

Decentralization has been gradually effected, beginning with the creation of regional directorates for secondary education. Later, primary inspectorates at the governorate level were converted into "governorate divisions" for primary education. The last step, which is still being implemented in 1983 is to regroup these structures into regional directorates for education, with an educational planning unit. The task of the regional divisions for primary education in each governorate is to coordinate pedagogical and administrative activities in schools under its control. The regional division is also responsible for appointing staff, for pedagogical counselling and supervision, for school construction programmes, etc. Nine regional directorates for secondary education have been established (each of them covering several governorates). They are responsible in particular for the appointment and management of teaching and administrative staff, for the administrative control of schools, for the organization of pedagogical

activities in the region, and for the organization of the new academic year as well as of examinations.

Recurrent expenditures of the Ministry of National Education in constant prices increased from 10.7 million dinars in 1960 to 43.4 million dinars in 1970 and to 118.2 million dinars in 1979; total recurrent expenditures for the public sector of education went from 11.6 million dinars in 1960 to 160 million dinars (estimate) in 1979. Ministry of National Education capital expenditures (which include Ministry of Higher Education expenditures from 1978 onwards) increased from 2.5 million dinars in 1961 to 7.9 million dinars in 1970 and to 22.4 million dinars in 1979.

Public recurrent expenditures on education, which represented 16.3 percent of the current budget in 1960, reached 29.2 percent in 1970 and 30.4 percent in 1979. Public capital expenditures on education, which corresponded to 23.8 percent of all public capital equipment expenditures in 1970 (against 7.4 percent in 1960), dropped to 6.9 percent in 1979. Finally, it is estimated that public educational expenditures represented 6.3 percent of GDP in 1979, compared with 9.0 percent in 1970 and 4.1 percent in 1960.

Considerable financial effort has been made by the public sector in favour of education and training; this reflects the priority given to education by the country's leaders. As of 1970, however, total public expenditures on education had reached such a level and gained such a momentum that it was necessary to take urgent counter-measures (e.g., much stricter control of multiple repeating in primary education, a large reduction in the admission rate to secondary education). The growth of public educational expenditures picked up in 1977-78, but was then more easily borne, given economic development and the significant increase in public resources.

Recurrent unit costs were 62.6 dinars in 1979 in primary education and varied between 192.8 dinars and 421.0 dinars in secondary education, depending on the cycle and the course. The highest unit costs in secondary education are for technical education and teacher training (where all the students are boarders and receive a state bursary).

Bursaries are given to the majority of secondary-school boarders in order to cover boarding expenses and to a very large proportion of students in higher education to help cover their living expenses.

Since education in the public sector is free, social welfare expenses are to a very large extent borne by the state, and private education is minimal, it is estimated that private-education expenditures are very low compared to the public contribution and are confined essentially to school materials and clothing and transport for pupils.

4. Teaching Personnel

Primary-school teachers are grouped by three qualification levels (teachers, Category 1 assistant teachers, and Category 2 assistant teachers), with only the first

two levels receiving a specialized training in teacher-training schools or in the teacher-training sections of secondary schools and colleges. (These sections were discontinued in 1969-70 and integrated into teacher-training schools.) The second category of assistant teachers has also practically disappeared.

Primary-school teachers are recruited from among pupils who have completed the first cycle of secondary education. They then receive three years of general education and one year of pedagogical training, at the end of which they pass the diploma marking the end of teacher-training school.

The rapid increase in primary enrolment has led to a rather heterogeneous recruitment of teaching staff and it has been necessary to recruit *baccalauréat* diploma holders as temporary staff and to have recourse to supply teachers. Furthermore, 7,000 assistant primary teachers were selected by competitive examination and promoted to the rank of primary-school teacher.

In all, the total number of teachers in primary education has increased from 7,128 in 1960-61 to 33,026 in 1983-84, and of this number about 87 percent are qualified. The pupil-teacher ratio was 36.1 in 1983-84. Since 1972-73, all primary-school teachers have been Tunisian nationals. Supervisory personnel comprises 180 inspectors and 320 pedagogical assistants, who are responsible for pedagogical activities, further training, and on-the-job pedagogical control.

Secondary teaching staff are trained at the Higher Teacher Training College (ENS) or at the Higher Technical Teacher Training College (ENSET). They are also recruited from among university students who have a bachelor's or master's degree. The course comprises a two-year cycle of general education followed by another two-year cycle of pedagogical training.

The rapid development of secondary education, at a time when the output of higher education was very limited, made it necessary to resort systematically to foreign teaching personnel (and in particular to French nationals). Through the sustained efforts made by the authorities in training and recruiting Tunisian teachers during the 1970s, the percentage of foreign teachers has fallen from 42 percent in 1969-70 to 2.5 percent in 1983-84.

There is still a lack of Tunisian personnel in technical subjects, mathematics, and physics. The output from ENS, ENSET, and the science faculty is still insufficient, especially since a significant proportion of graduates are not attracted to teaching. In all, secondary teaching staff increased from 6,992 in 1969-70 to 17,724 in 1983-84. Their distribution by level of qualification in 1979-80 was as follows: teachers (and assimilated staff), 48.5 percent; assistant teachers (and assimilated staff), 22.6 percent; teachers with primary-school-teaching qualifications (or equivalent), 28.9 percent.

Inservice training is inadequate for secondary-school teachers; only ENSET organizes refresher courses and certain pedagogical activities for technical teachers, but even these possibilities remain very limited compared

to needs. Pedagogical supervision is taken care of by 78 inspectors and 167 pedagogical advisers. Apart from lower echelon administrative staff (secretaries, etc.), the schools are managed by staff almost all of whom have a teaching background.

5. Curriculum

In 1977-78, Arabic became the sole teaching language in primary school, and the teaching of Arabic was updated so that it was better adapted in content, emphasis, and methods to the national environment. This strengthening of Arabic teaching is based on a dual concern: to provide teaching in a language in the mother tongue with a view to limiting the number of school failures attributed to communication problems; and to give Arabic its rightful place as the national language. The use of Arabic for teaching arithmetic throughout primary education was achieved in October 1980. The curriculum and teaching methods for French studies in primary education are now based on foreign-language pedagogy. Ten hours per week are devoted to French from primary grade 4 onwards. This should provide pupils with the terminology required in those subjects of secondary education which are not to be arabized in the immediate future.

In 1971-72, an experimental initiation in manual work was launched in primary education, with the help of UNICEF and the World Bank. This initiation, which is intended to "transform attitudes to manual labour by recognizing the usefulness and the social value of work" starts in primary grade 5. In addition to the regular curriculum, two hours per week are set aside for activities related to agriculture, fishing, industry, and handicrafts. The aim is to base the initiation to manual work on activities related to the environment of the school and to the development needs of the area. Programmes take the form of productive projects such as the development of poorly cultivated or infertile land, experimentation with new agricultural techniques, and the introduction of new crops to the region. This experiment is, however, still limited and in 1979-80 only 14.3 percent of grade 5 and grade 6 enrolments were involved in it.

In secondary education, an effort has been made to speed up the process of arabization and the teaching of Arabic is based in a more systematic manner on themes taken from the country's cultural heritage. The teaching of philosophy in Arabic, which was started in the mid-1970s, has continued, as has the teaching of history and geography in Arabic. The curriculum for these last two subjects has been revised in order to give sufficient importance to the study of Tunisia, the Maghreb countries, and the Islamic world. The diminishing role of French as a teaching medium has necessitated the production of new curricula, drawn up according to the requirements of each stream and constituting a logical continuation of the new pedagogy introduced into primary education. The rapid changes in this field seem,

however, to have created a certain number of problems. Pupils following the new curricula at the primary level (with French being taught only from grade 4 onwards for 10 hours per week) now reach secondary education with a much more limited knowledge of French than their predecessors. Despite the introduction of new curricula in secondary education, these pupils are facing many difficulties in subject matters like maths and science, which are still taught in French.

Until 1976, the majority of school textbooks were imported, which caused problems not only of cost but also of adaptation to Tunisian programmes. Since then, considerable effort has gone into encouraging the national production of school textbooks and teaching material and into covering all subjects. The National Pedagogical Centre was given more resources and a fund was established to ensure that textbook authors received a certain share of any profits. Regional offices of the National Pedagogical Centre were set up to facilitate the distribution of textbooks throughout the whole country.

Through these endeavours, textbooks and teaching materials covering the majority of primary- and secondary-school subjects have been available since 1980. Thus, in some subjects (particularly the scientific and technical ones), for the first time, there are textbooks which are specifically adapted to programmes.

6. Educational Research

Educational research aimed at improving curricula and teaching methods is undertaken in particular by the National Institute for Educational Science, by educational research units within teacher-training colleges, and by commissions composed of teachers, educational advisers, and inspectors, which are responsible for drawing up new curricula and teaching methods in each subject.

7. Major Problems

The main problems mentioned in the introduction to the report on the Sixth Educational Plan (Ministère de l'Education Nationale 1981) were the following:

- (a) the need to improve enrolment rates, particularly among females;
- (b) regional disparities, often linked to scattered settlement;
- (c) poor educational output (dropouts and repeaters);
- (d) the continuing need for foreign teachers despite the changeover to nationals already under way (34 percent in secondary education in 1971-72 compared to 43 percent in 1967-68); and
- (e) insufficient links between the educational and training systems and employment (imbalances between the courses, too rigid structures, quantitative and

qualitative differences between educational output and the needs of the economy).

The National Educational Sectoral Commission, which met in April 1981, has approved proposals for responding to these problems. Moreover, studies are being undertaken in order to prepare an overall reform, the objective of which is the creation of a basic education cycle of eight or nine years, which would be followed by general and technical secondary education. This reform, however, is being considered with a certain caution because of the human and financial resources which would be required for its implementation.

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Turkey

B. Oney

The Republic of Turkey is situated in two continents, Asia and Europe, with 97 percent of its landmass in Asia. Turkey has been a democratic and secular state since the proclamation of the Turkish Republic in 1923, following the decline of the Ottoman Empire.

Over the centuries, two general types of school had developed in Ottoman Turkey: those that were basically religious, and those that were established to train government officials and administrators. Modernization of education began in the late eighteenth and the nineteenth centuries, when European educational ideas were introduced to Turkey as a means of modernizing the country.

After the establishment of the republic, all existing schools were brought under the control of the Ministry of Education. This was part of a movement for national integration. Another important development in the process of change was the adoption of the Roman script in 1923, replacing the Arabic script, which had been used for centuries. This served as an important step in the spread of literacy.

In 1982 Turkey had 45 million inhabitants, 57 percent of whom lived in the countryside. The population growth rate was 2.6 per cent in 1979, with a population density of 57 persons per square kilometer. Major cities such as Istanbul, Ankara, and Izmir, as well as the western coastal regions, are more densely populated.

Turkish, which belongs to the Ural-Altaic language group, is the nation's official language and is used in schools. The nation is 99 percent Moslem, but since

Turkey is a secular state, the government guarantees complete freedom of worship to non-Moslems.

Agriculture plays a very important role in the Turkish economy. Industry, which is developing rapidly, is directed mainly towards the processing of agricultural products, metallurgy, textiles, and the manufacture of automobiles and agricultural machinery. The country is also rich in natural resources and is an exporter of certain minerals, such as chrome.

Education is looked upon as one of the important factors in national development. The general objectives of the Turkish national educational system are:

- To raise each member of the Turkish nation to be a citizen devoted to the reforms of Atatürk (the first Turkish president) and Turkish nationalism.
- To bring up all Turkish citizens as constructive, innovative, and productive individuals.
- To prepare all Turkish citizens for life through developing their interests, talents, and abilities so that they may acquire the necessary knowledge, skills, attitudes, habits of cooperation, and professional expertise to find happiness and to contribute to the community.

1. Structure and Organization of the Educational System

The structure of the educational system is presented in Fig. 1. The first level of education involves preschools.

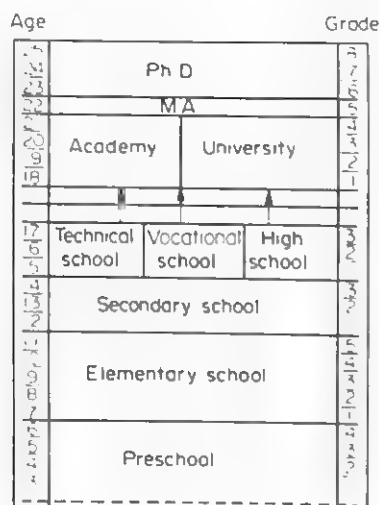


Figure 1
Structure of the educational system

which accept children between the ages of 3 and 6. Preschool education provided by the state is not very common, however. Most preschools are either privately owned and operated or are provided by workplaces. Curricula and programs of all preschools have to be approved by the Ministry of Education. Most preschools are in big cities and industrialized areas, where women participate in the workplace.

Basic education covers the education of children in elementary and secondary schools. Elementary education is free of charge and compulsory for all girls and boys. Elementary schools are established, operated, and supervised by the state. Private elementary schools are also supervised and controlled by the state. Their curricula and programs have to be approved by the Ministry of Education.

The primary goal of elementary education is preparing the child for higher levels of education. However, according to the 1978 statistics, 51 percent of children do not continue their education beyond elementary school. During the five years in elementary school, pupils are instructed in science, arithmetic, social science, Turkish, art, music, and physical education. Elementary schooling is considered to be an important aspect of socialization. Therefore, the values of and responsibilities to the country are also emphasized and developed at this level of education. Elementary schools follow a common program and curriculum.

The opening and closing dates of elementary schools are decided by the educational authorities of the provinces. However, the school year cannot be less than 200 days in towns and 170 days in villages.

One of the problems encountered at the elementary level is the insufficiency of buildings and materials, which is especially true in villages. Another problem is the length of the academic year, which is short compared to most countries. The number of elementary-school teachers is not sufficient, and most teachers want to

teach in the bigger cities and towns rather than villages. One other problem is the difference in the quality of education received by students living in developed areas and cities and those living in underprivileged areas.

Secondary schools constitute the second level of basic education. These are regarded as intermediary schools between elementary school and high school, and they cover three grades. Secondary-school programs consist of basic courses, including Turkish, mathematics, social sciences, science, foreign language, music, and physical education, as well as elective courses. The main problem at this level of education is again the shortage of qualified teachers, especially for elective courses.

High schools, technical schools, and vocational schools constitute the next level of education, which is called secondary education. High schools are aimed at preparing students for university education. Some high schools emphasize a foreign language and use English, German, or French as the educational language. The majority of students attend public high schools. However, there are also minority schools, as well as schools established by other countries for their own nationals. All high schools operate under the jurisdiction of the Ministry of Education.

Technical schools and vocational schools educate students in specialized fields and equip them with skills necessary in specific vocations. Teachers' schools, which educate future elementary-school teachers, commerce schools, agriculture schools, health schools, and the like, belong to this category.

During the 1970s the most dramatic growth in school enrollment occurred in secondary education. Between 1970 and 1978, the number of students in secondary institutions almost doubled (from 47,452 to 91,107) while primary-school enrollment grew by 11 percent (from 5,011,926 to 5,570,935). Over this same period the trend at the primary-school level was to enroll an increasing proportion of girls in school, with girls making up 42 percent of the pupils in 1970 and 45 percent in 1980. At the secondary level, however, the proportion of females in school decreased slightly (37 to 34 percent). In other words, while the number of females in secondary education rose markedly, as enrollment nearly doubled during the decade, the number of boys in school rose even more rapidly. Over this same period, the number of primary schools increased by 14 percent (38,227 to 43,731) and the number of primary-school teachers increased by 41 percent (132,577 to 187,027), thereby reducing the teacher-pupil ratio from 1:38 to 1:30 (UNESCO 1981 pp. 3: 10, 206).

The Inter-university Entrance Examination, which is a nationwide examination and covers content areas and aptitudes, must be obtained by all students wishing to attend universities and academies. Students are placed in universities according to their score in this examination and their preferences as to which university and department they want to attend. However, not all students wishing to attend university can be placed

because of the limited number of places in universities. Some students have to take the examination several years in succession to be able to enter the school or department they want to attend.

The major universities in the country are Istanbul University, Istanbul Technical University, Ankara University, Aegean University, Middle East Technical University, Hacettepe University, and Bosphorus (Bogazici) University. In the last three universities, English is used in instruction, and students not competent in English are required to attend a year of intensive English-language courses at the university. There are no private universities in Turkey.

Universities do not charge fees for tuition and are supported by the state. However, since the opportunity to obtain financial aid for other expenses is very limited, most students have to engage in employment to pay for their room and board. Working while at university tends to distract students from academic pursuits and may be one reason for the high dropout rate as well as for the low number of graduates per year in relation to total enrollment.

Recent changes have taken place in the university system in Turkey. The Higher Education Organization (YOK), a recently established governmental organization regulating university affairs, appoints professors to universities. In order to provide professors for universities outside the major cities, a rotation system is employed, whereby professors are appointed to universities in underprivileged areas for two years in their careers.

Major problems in university education include the shortage of educational opportunities compared to the demand for university education, shortage of educational materials, books, and laboratories, the high student-professor ratio, and the lack or shortage of well-equipped libraries. There are very few organizations providing grants or other funds for research.

2. Finance

All public schools, including universities, receive major support from the central government, which is responsible for all educational expenses. At the elementary level, schools also receive some local support. Uni-

versities may also have other sources of income, such as property, investments, and gifts.

A maximum for fees charged by private schools at all levels has been established by the government. Schools may not exceed this amount.

International and regional organizations provide some assistance to Turkey for educational development.

3. Teacher Education and Educational Research

Elementary-school teachers are trained in two-year teacher-training institutes, and secondary-school teachers are trained in three-year institutes. Teachers for high schools, technical schools, and vocational schools, on the other hand, are trained in four-year higher education institutions, academies, and universities. The organization of teacher education allows for vertical and horizontal mobility. The Ministry of Education also provides inservice training for teachers through courses and seminars.

Educational research is conducted by universities and the Ministry of Education. The Ministry of Education also finances research through the Planning, Research, and Coordination Office and offers grants for educational research to institutes and organizations. The Scientific and Technical Research Council of Turkey also supports educational research.

A considerable amount of educational research is conducted in other countries, and the suitability of models and programs developed and based on such research to the economic, social, and cultural characteristics of Turkey is questionable. It is important, therefore, that the necessity that research answer specific questions about Turkish education be realized.

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Tuvalu and Kiribati

S. Haigh

From 1916, these Pacific islands were administered by the United Kingdom as the Gilbert and Ellice Islands Colony. In 1974, the Ellice Islanders voted overwhelmingly by referendum to secede; and from January, 1976 the islands formed two separate colonies. The Polynesian Ellice Islands became Tuvalu with an admin-

istrative center at Funafuti; and the Gilbert Islands, whose people are Micronesian and speak a different language, are now known as Kiribati (pronounced Kiribas) with the capital remaining at Tarawa. Tuvalu became an independent constitutional monarchy with Britain's reigning monarch as its head in October 1978.

After a protracted legal battle with the Banaba Islanders (formerly Ocean Island), who claimed for damages and unpaid royalties on phosphate mined by the British Phosphate Commission and who later attempted to secede, the United Kingdom government granted independence to Kiribati. It became an independent republic in July 1979. As far as European influence is concerned, the two countries have much in common, and it will be interesting to see how conditions specific to each affect their future development.

Kiribati is a group of 32 coral atolls and one coral island, Banaba, with a total population of 56,452 (1978 census). Some 16 islands make up the Gilberts proper (Tungaru), and there are also 8 Line Islands and 8 in the Phoenix group. Kanton Island is administered jointly with the United States and has a space-tracking station. The islands lie in 13,416,200 square kilometers (2 million square miles) of ocean, at about the point where the equator cuts the international date line, and vary in length from a few hundred meters to 80 kilometers (50 miles). One-third of the population lives in urban Tarawa, where one of the more unpleasant implications of overpopulation became apparent in the 1977 cholera outbreak. The annual population growth rate for Tarawa is about 4.3 percent but is falling, and the growth rate on the rural islands is less than 1 percent. A fairly successful birth-control program was started in 1973.

Tuvalu lies to the southeast of Kiribati and is much smaller. It consists of 9 atolls with a population of 7,357 (1978 census). However, the true figure is over 9,000 as the former figure does not include people employed as seamen or working either in Kiribati or Nauru. Both countries are Christian and the church plays an important part in the lives of the people. About half the Kiribati are Roman Catholic. The rest and the Tuvaluans are Protestants as their churches grew from the influence of the London Missionary Society at the end of the last century. There are also a few Seventh Day Adventists and Baha'i. Island life has been described as affluent subsistence. Most families have small gardens where they cultivate taro and sweet potatoes; and they are famous for their skill at sea fishing with outrigger canoes. On some islands, wages are gained from the sale of copra. It would be difficult to fit an orthodox Western class-structure model, but the distinction between the landless wage-earning and the rural populations is important.

1. Educational Policy

The most pressing issues facing both educational systems are changing employment patterns and the need to create a sense of national identity following separation and independence. Poor communications and finance are constraints. The 1978 Tuvalu Development Plan noted the need to forge a new nation, and the following objectives were reiterated in the 1980-82 plan:

- (a) provide basic primary education and skill training consistent with the needs, the environment, and the semisubsistence Tuvaluan economy; and
- (b) provide education and training beyond primary level to fill the personnel requirement of the public service and provide skilled personnel capable of finding employment overseas.

More specific objectives had been laid down for the colony in 1975 and are still quoted in the most recent Kiribati plan:

- (a) to provide free and compulsory primary education by 1980 for classes 1-6;
- (b) to improve the present standard of primary education;
- (c) to integrate as far as possible all primary schools into a unified system;
- (d) to establish postprimary "community high schools" with a curriculum in accord with the rural environment;
- (e) to provide, in association with the missions and churches, sufficient places in academic secondary schools to produce the students needed to meet requirements for skilled technical, professional, and administrative human resources; and
- (f) to involve schools, both staff and pupils, in the total rural development program.

2. Structure of the Educational System

All children in both countries now attend small local primary schools for seven years, but enrollment statistics are inflated as many repeat classes. In 1978, it was estimated that 41 percent of Kiribati primary children were not in the modal grade for their age group. English is taught from the first level and is the medium of instruction in most first- and second-level classes. Entrance to academic secondary school is gained through success in an annual national entrance examination by approximately one student in six. These schools are coeducational, boarding, and provide a three-year course leading to the National Junior Certificate. One-third of the best pupils may continue for another two or three years, though this may entail changing school in Kiribati. They then sit School Certificate Examinations set by Cambridge University, United Kingdom, in Kiribati or the University of the South Pacific (USP) in Tuvalu. A number of community high schools, or community vocation training schools as they are called in Tuvalu, provide an alternative second-level education for three years. It was intended that these schools would function in adult-education, community-development and out-of-school youth programs, but equipment and staffing have been inad-

Table 1
Total enrollment by level 1980

Level	Kiribati		Tuvalu	
	Schools	Students	Schools	Students
Primary	100	13,234	9	1,322
Nonacademic secondary	6	1,166	1	56
Academic secondary	5	979	1	250

equate. The scheme started in 1977 in Kiribati and grew rapidly to the point where there were over 1,000 on roll; but project evaluation in 1980 revealed that the government had "probably gone too far in interpreting relevant education to mean practical subjects, and irrelevant to mean academic subjects" (Tata 1980). The government community schools have been closed in Kiribati now, and the primary-school system extended to include an optional two extra years after which pupils get a second chance to enter the academic secondary system. However, the scheme in Tuvalu continues as it was envisaged, with a building program which will eventually link community schools to the existing primary schools on each island. Communications within both countries are extremely difficult and the problem of gaining local support for such projects is an important constraint on innovation.

Table 1 presents the enrollments for levels 1 and 2 in Kiribati and Tuvalu.

There are three third-level institutions in Kiribati. The Tarawa Technical Institute has about 500 students at any one time, who are all on part-time or short-term clerical, commercial, administrative, or manual courses. The institute is active in developing appropriate technology and in the retraining of workers made redundant by the termination of phosphate mining. The Teachers' College is responsible for the training of primary-school teachers, most of whom have had three years at an academic secondary school. In an effort to combat very high primary-school teacher-pupil ratios in the late 1970s, the course was reduced to two years, but a three-year course was reintroduced in 1982. The college also offers various one-year upgrading courses as there are still a few untrained teachers and there is a need for further training following the extension of the first level. The total College roll was just over 100 in 1982. Both countries now have marine-training schools offering one-year courses in basic seamanship to third form leavers and various short courses. Again, in 1982, the school on Kiribati had a roll of 200 and that on Tuvalu, which opened in 1979, a roll of 60.

Both countries have strong links with the University of the South Pacific (USP) in Fiji and now have USP Extension Centers with satellite links via PEACESAT to the university. Two-way telephone links allow distance teaching on specific topics and preuniversity courses. In 1978, there were 88 Kiribati students studying for degrees or diplomas abroad and a target of 64 per

annum was set for 1982. The 1980 figure for Tuvaluans was 25 with a planned increase to 35 by 1983. About a third of these students are on inservice scholarships.

An increasing number of pupils attend private, mission-subsidized secondary schools abroad and are still able to qualify for government scholarships to university. This is regarded as an investment by their parents.

3. Administration and Finance

The educational systems of both countries have grown from missionary enterprises. Little was done by the government until after the Second World War when it was necessary to reorganize following the Japanese occupation. Tarawa Teachers' College and some schools were built; and the mission primary schools were given an increasing amount of financial aid. In 1965, the colony's Protestant churches began a planned withdrawal from primary education; and by 1978, all but five of Kiribati's primary schools were government-controlled and nonfee-paying. On Tuvalu, two small infant schools are run by the Seventh Day Adventists. The churches are still involved in secondary education though the governments meet most of their running costs. In Kiribati, they administer schools which about half the academic-secondary school population attends; and the Tuvalu Church administers its country's secondary school at Motufoua jointly with the government.

Kiribati has a minister of education, training, and culture with cabinet rank, while, on Tuvalu, a senior education officer heads a division of the Ministry of Social Services.

Comparative statements concerning finance are complicated by the fact that both economies have been cushioned since independence by grants-in-aid from the United Kingdom. Revenue from phosphate mining in Kiribati has recently dried up; and interest from foreign investments, which the country had been able to make from the mines, depends heavily on the state of Western economies. In 1978, Kiribati spent 14.5 percent of its annual budget on recurrent education expenditure. This increased to about 22 percent in 1982. The current figure for Tuvalu is closer to 10 percent. However, both countries have met some capital costs with money given in aid projects.

The people of Kiribati have to face problems of

urban overpopulation and changing employment opportunities over and above the constraints of the lack of natural resources and difficult internal communications which they share with Tuvalu. In both countries, the clarity of vision in policy making and the amount of aid received in the future will be crucial.

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Uganda

C. F. Odaet

Uganda is located in the heart of Africa, astride the equator. The country is bounded by the Sudan in the north, Kenya in the east, Tanzania and Rwanda in the south, and Zaire in the west.

The total area of the country is about 236,860 square kilometres (91,249 square miles), of which 35,459 square kilometres (13,687 square miles) is open water and swamp. The country has good soil, which is suitable for farming, and both annual and perennial crops are grown throughout the country. Most of Uganda consists of a high plateau an average 1,220 metres above sea level. The country has a large expanse of savanna-type vegetation, that is, high grass mixed with trees. There are also thick natural forests mainly in the Western Region. Northeast Uganda (Karamoja) is mainly semidesert.

In 1980, the population, made up of 28 tribes, was 12,634,081, an increase of three million people since 1969. In 1959, the population numbered 6.5 million and in 1948 nearly 5 million.

The population growth rate in the 1950s and 1960s was 4.6 percent, due in part to improved health facilities and in part to a large net inflow of people from the neighbouring countries of Rwanda, Zaire, and Sudan, as a result of the political instabilities then prevailing in those countries. In the 1970s, the population growth rate fell to 2.8 percent due to a lowering of the standard of living and a rise in the mortality rate. Also, the Asians were forced to leave the country and many Ugandans fled from the military regime, thus creating a net population loss. In 1980, only 9 percent of the population lived in urban centres (more than 2,000 persons living near each other constitutes an urban centre). There were 55 urban centres but nearly half of the total urban population lived in the capital, Kampala.

The 91 percent living in rural areas were more or less equally distributed (over three million in each of three regions—central, western, and eastern), except in the northern area, which has only 2.4 million inhabitants.

Uganda, like several other developing countries in Africa, suffers from a shortage of high-level skilled

personnel (Seers et al. 1979). This has been a major impediment to economic and social development. The problem became more acute as a result of the unprecedented rate of Ugandanization of the economy, precipitated by the declaration of the so-called economic war in 1972. This declaration generated the main exodus of noncitizens, as well as citizens of Asian origin who for a long time dominated technical and managerial positions in the different sectors of the economy.

The problem of a technical and managerial shortage had, however, existed for some time, and in 1967 it was proposed to expand the educational system to provide more trained personnel for rapid economic development. No measures were taken to implement this proposal and, furthermore, the situation deteriorated under the military regime. A survey of human resources, undertaken by the Ministry of Planning and Economic Development with the assistance of the United Nations Development Programme (UNDP) and the International Labour Organization in 1977 (unpublished), drew attention to the need for a collective approach to personnel planning, but again the recommended policy was not introduced. In 1982, another personnel survey was undertaken. Perhaps it will yield useful results.

Uganda's economy is essentially agrarian, with only 7 percent of the population living in towns of over 1,000 people. Virtually all merchandise exports originate in the agricultural sector, as do substantial proportions of the inputs, food, and tax revenue upon which the towns, and industries and service activities, in turn, depend. While import-substituting industrialization has made a significant impact upon Uganda's imports, this has merely altered the composition of the import bill. Uganda is still dependent on imports for fuel, many industrial and agricultural imports, and most of its machinery and equipment; and these must still be paid for by agricultural exports (Helleiner and Belshaw 1979).

Uganda was liberated from the government of Idi Amin in 1979. The new administration inherited an

economy which was in ruins. For nearly a decade (1971–79), the economy had declined through neglect, lack of maintenance and investment, destruction of administrative and management skills, financial abuses and mismanagement, and growth of illegal economic transactions.

The picture contrasted starkly with the 1962–71 period, during which the real gross domestic product (GDP) grew by approximately 5 percent, implying a minimum annual per capita growth of 2 percent. By the end of that decade, Uganda had a well-diversified economy with subsistence production accounting for no more than 30 percent of total output. Real GDP stagnated between 1970 and 1978, especially in the monetary agriculture and industrial sectors. With the rapid growth of population, averaging 2.8 percent per annum, per capita income fell. The only sector to experience real growth during this period was subsistence agriculture. Domestic investment was constrained by both a fall in the rate of savings and substantially reduced inflows of capital. In particular, maintenance investment was reduced almost to zero, rendering much of the capital stock of the country unproductive.

The economy has shown recovery since the general elections of December 1980, which put the Uganda People's Congress, under the leadership of Dr. Apolo Milton Obote, into power. The impact on the economy of the measures introduced in June 1981 has been dramatic. Key economic indicators are confirming that government policies are achieving the intended objective of economic recovery. The overall rate of economic growth is expected to exceed 8 percent in respect of monetary agriculture and 10 percent for subsistence agriculture for the year 1982.

Production in the export sector is recovering at an accelerated rate. Uganda was able to fulfil the new coffee quota, and coffee sales were estimated to be 45 percent higher than in 1980–81. Cotton sales to ginneries in 1982 were 15 percent higher than in 1981. Over several years, production of tobacco had virtually ceased. It was only during the fiscal year 1981–82 that production of this crop resumed. Cocoa began to be exported again in 1982.

Under a democratically elected government Uganda's main political goals are stability and prosperity. For the Ugandan People's Congress, the removal of the regime of murder and terror in 1979 was only the first stage of the struggle for complete liberation; the life of the country continues to be insecure and difficult. The second stage is rehabilitation and reconstruction, with efforts directed towards salvage operations. The third is sustained development and growth, when government energies will be directed towards the development and expansion of production sectors and social services. This involves well-conceived short-, medium-, and long-term development plans with definite goals. The economic policy package adopted in 1981 along with the recovery programme led to fast economic growth (UNESCO 1985)

1. Goals of the Education System

The government has consistently underlined that education in Uganda is a foundation for economic growth and is central to the well-being of society as a whole (Uganda 1982). In the field of education and training, the government's main long-term objectives since independence have been:

- (a) to make primary education available to a fast-increasing proportion of school-age children until universal primary education is achieved, providing every individual with the basic skills and cultural awareness necessary for a full and productive life within a dynamic society; and
- (b) to provide sufficient personnel of the type and quality needed to meet the skill requirements of the expanding Ugandan economy.

Although educational development is geared principally to the achievement of these two specific goals, the government also recognized in the third five-year development plan (1971/72–1975/76), the very important role of education at all levels as a factor in the cultural and intellectual development of the Uganda community. To this end government planning has paid close attention to the role of the schools in socio-economic development.

2. General Structure and Size of the Education Efforts

Figure 1 presents the types of schools and higher education institutions in the formal education system. Only a few children in urban areas attend preschool. The majority of pupils enrol in grade 1 at age 6. The seven-year primary education is a basic education in literacy, leading to the Primary Leaving Examination (PLE)—papers in English and Mathematics, and a general paper, which embodies history, geography, general science, and religious knowledge. About 67–70 percent of primary-school-age children (6–13 years) are in school.

Figure 1 shows that those pupils who successfully complete primary-school education may be absorbed into either secondary schools [Ordinary (O') Level] or technical schools. Altogether these constitute less than 25 percent of the total primary-school enrolment implying a dropout rate of more than 75 percent at the first level of education.

Between 20 and 40 percent of those who successfully complete O' level secondary-school education continue for further education in either Advanced (A') level (higher) secondary school, teacher training (grade 3), technical institutes, the Uganda Technical Colleges, the Uganda Colleges of Commerce, or the National Teachers' Colleges. At the end of the second level of formal education, therefore, there is again a high drop-

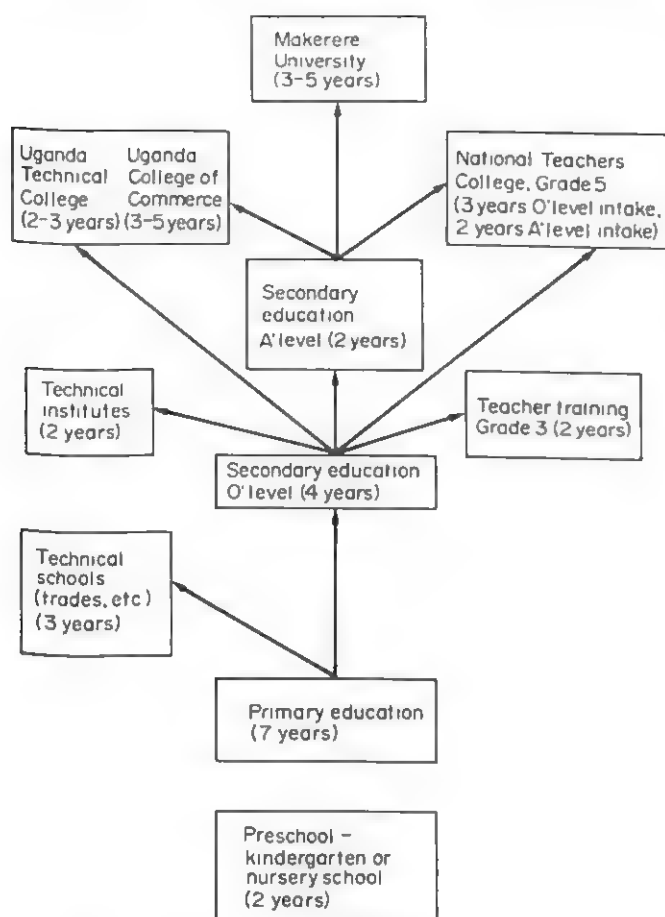


Figure 1
Structure of the formal educational system

out rate of more than 80 percent of those who enrol in O' level secondary schools.

Table 1 presents enrolments in the different types of educational institutions in 1965, 1970, 1975, 1980, and 1984. With the exception of Karamoja in the north (for

which special grants have been provided), the distribution of primary schooling around the country is reasonably well-balanced; the enrolment ratio in each of the provinces is within 15 percent of the national average. The availability of secondary education, however, is much less even, with Central Province taking a disproportionate share both of the total number of students and the total number of school places (Hel-leiner 1979).

The main purpose of nonformal education in Uganda is to facilitate the personal development of youths and adults and prepare them for their social and economic roles in society. The overall goal is to improve the quality of life, both for individuals and for society as a whole.

Basic education in reading, writing, and arithmetic is provided by the churches, local literacy associations, and the Ministry of Culture and Community Development. The government's Adult Literacy Campaign of 1964-65 had little success, but in 1982 there were plans to renew it.

The government also provides general education in hygiene, health precautions, nutrition, family welfare, agriculture, livestock farming, and trading. This is done by extension services and through radio and television.

Education for vocational, technical, and professional competence is provided by the government, the Young Women's Christian Association (YWCA), the Young Men's Christian Association (YMCA), the trade unions, and the churches. Education for civic, political, and community participation is provided by the government, the Makerere University's Centre for Continuing Education, the YWCA, YMCA, trade unions, and by the ruling political party—the Uganda People's Congress.

The work of certain institutions is of interest. The Nakawa Vocational Institute, Kampala, began operating in October 1971. It offers full-time courses of three months' duration for upgrading in motor-vehicle mechanics; electrical installations; electrical fittings; and

Table 1
Enrolments in various institutions, 1965-84^a

Institution	1965	1970	1975	1980	1984
Primary school	578,459	721,127	918,024	1,850,872	1,908,565
Technical school	883	1,766	1,594	2,294	6,595 ^c
Teacher training (grade 2)	3,557	3,409	4,606	6,031	n.a.
Secondary O' level	16,192	37,477	41,477	66,180	1,138,163 ^d
Technical institute	—	1,766	1,600 ^b	1,147	n.a.
Teacher training (grade 3)	393	674	1,490	1,165	16,740 ^c
Higher secondary (A' level)	1,131	3,220	4,394	6,912	n.a.
Uganda Technical College	426	572	531	612	980
National Teachers College (grade 5)	105	367	462	n.a.	1,234
Uganda College of Commerce	159	n.a.	n.a.	900 ^b	870
Makerere University	888	2,581	3,462	4,045	5,155

a Sources: Education Planning and Statistics Unit, Ministry of Education, Kampala (1965-80), Ministry of Planning and Economic Development, Kampala 1985 (1984) b Estimated c Includes enrolments in technical institutes d Includes A' level enrolments e Includes teacher training (grade 2) which was phased out in 1986

Table 2
Ministry of Education expenditure in millions of Ugandan shillings (and as a percentage of respective government budgets in parentheses)^a

Fiscal Year	Recurrent Expenditure	Development Expenditure	Total Expenditure
1971-72	322 (21.6)	51 (5.4)	373 (15.3)
1972-73	331 (21.6)	24 (4.2)	355 (16.9)
1973-74	330 (16.3)	57 (9.0)	387 (14.5)
1974-75	445 (18.0)	36 (4.2)	481 (14.5)
1975-76	529 (17.9)	40 (4.9)	569 (15.1)
1976-77	676 (18.4)	52 (5.0)	728 (15.4)
1977-78	735 (17.5)	138 (7.9)	873 (14.7)
1978-79	892 (19.8)	172 (11.3)	1,064 (17.7)
1979-80	948 (17.4)	148 (11.0)	1,096 (16.1)
1980-81	1,399 (13.9)	181 (6.0)	1,580 (12.1)
1981-82	4,338 (12.6)	748 (8.3)	5,086 (11.7)
1982-83	6,787 (11.2)	467 (5.3)	7,254 (10.5)
1983-84 ^b	12,915 (16.8)	393 (2.7)	13,308 (14.5)

a Source: Statistics Department 1984 b Figures for 1983-84 are projections

industrial engineering. The institute also offers six-month full-time courses for 16-year-old school leavers with a minimum educational standard of two years of secondary school. The courses offered are metal machining, sheet metalwork, and welding/flame cutting. All the courses involve both theoretical and practical work. The institute is functioning satisfactorily, and there are plans to expand it.

The YWCA of Uganda started in 1952 and is now well-established. It has over 6,000 members and clubs in all regions of Uganda. Its main activities are agricultural/nutrition programmes, programmes in handicrafts and other skills and activities (such as handwork, needlework, literacy, English, health education, drama, civics, sports, and visits to places of interest), a nursery-school-teachers' programme, an early school-leavers' programme (which involves training dropouts in cooking, nutrition, child care, health education, dressmaking, handicrafts, typing, English, literacy, and Bible study), and an adult education programme (English, literacy, cooking, modern living, business correspondence,

bookkeeping, and driving. Future plans include courses for domestic-science teachers, secretaries, tailoring, and catering).

Makerere University's Centre for Continuing Education (CCE) has been charged with the responsibility of "taking the university to the people". It runs a one-year full-time residential course, which leads to the University Certificate in Adult Studies. Through its regional centres, the centre runs extramural classes mainly in O' level and A' level subjects. It also organizes seminars for workers, chiefs, teachers, and extension workers on various aspects of adult education. In July 1982, the government introduced a scheme for training widows in artisan skills.

3. Administration and Finance

The overall responsibility for the administration of the country's educational system lies with the minister of education. Authority for the general administration of primary schools, however, is delegated to local district councils and to recognized urban authorities.

The ministry headquarters maintains more direct contact with postprimary schools, teacher-training colleges, technical institutes, and colleges of higher learning—although much of the day-to-day running of these institutions is managed by their respective boards of governors. Makerere University is autonomous. The administrative arm of the ministry is headed by the chief education officer while the supervisory arm is headed by the chief inspector of schools.

Nonformal education, mainly in adult literacy and vocational training, is administered chiefly by the Ministry of Culture and Community Development and the Ministry of Labour respectively.

The percentage of the state budget devoted to education has varied between 12.3 percent in 1963 and 25.3 percent in 1972. In 1980, it was 14.7 percent. As a percentage of GDP, it has typically been between 5 and 6 percent. The economic disruption ensuing from the war of 1979 inevitably accentuated the fall of real financial resources spent on education. By the fiscal year 1980-81, public expenditure on education accounted for a mere 0.5 percent of gross domestic product (GDP).

Table 3
Distribution of the recurrent education budget in millions of Ugandan shillings (and as a percentage of the total recurrent education budget in parentheses) among various sectors of education and training 1981-82 to 1984-85

Sector of education	1981-82	1982-83	1983-84	1984-85
Primary	922 (16)	1,100 (16)	3,170 (26)	9,099 (49)
Teacher	339 (6)	668 (10)	1,267 (10)	1,784 (9)
Secondary	2,668 (47)	2,710 (40)	3,075 (25)	3,866 (19)
Technical	291 (5)	378 (6)	638 (5)	1,194 (6)
Higher	1,025 (18)	1,183 (18)	2,466 (20)	2,693 (15)
Not allocated by level	446 (8)	704 (10)	1,786 (14)	1,827 (9)

Table 4

Distribution of the development education budget in Ugandan shillings (and as a percentage of the total development education budget in parentheses) among various sectors of education and training 1981-82 to 1984-85

Sector of education	1981-82	1982-83	1983-84	1984-85
Primary	56 (5)	135 (21)	1,118 (28)	2,054 (25)
Teacher	274 (26)	88 (14)	191 (5)	525 (6)
Secondary	160 (15)	218 (35)	651 (17)	2,001 (24)
Technical	85 (8)	11 (2)	153 (4)	345 (4)
Higher	169 (16)	96 (15)	1,084 (28)	1,396 (17)
Not allocated by level	293 (28)	65 (10)	722 (19)	2,013 (24)

From this extremely low starting point significant progress has been made in recent years. The proportion of resources allocated to education by the government in relation to GDP increased to 0.9 in 1981-82 and levelled off in 1982-83 (UNESCO 1985). However, as is evident in Table 2, in terms of total government expenditure the share of the Ministry of Education has tended to decline from 12.1 percent in 1980-81 to 11.7 percent in 1981-82 and 10.5 percent in 1982-83. The same declining trend occurred in respect to recurrent expenditure, which fell from 13.9 percent to 12.6 percent and 11.2 percent respectively, while the Ministry's share of development expenditure increased from 6 percent in 1980-81 to 8.3 percent in 1981-82 and then fell to 5.3 percent in 1982-83. Thus the increase in the proportion of government resources devoted to education was due to the rise in the ratio of government revenue to GDP from an insignificant 0.8 percent in 1980-81 to 4.9 percent in 1981-82 and 6.8 percent in 1982-83. However, in 1983-84 the Ministry of Education's share in total government expenditure increased to 14.5 percent.

Tables 3 and 4 present the distribution of the recurrent and development education budgets among various sectors of education and training 1981-82 to 1984-85 (Uganda Commission for UNESCO 1984).

Uganda's problems of educational financing are closely linked with the economic recovery of the country, and in particular with two major aspects. First, the resources available for education are severely limited due to the low proportion of government revenue

in relation to GDP. Second, the conditions created by inflationary pressure and a floating exchange rate combined with the realignment of income from both wages and salaries make the cost structure of education unstable. This affects the balance between administrative, teaching and nonteaching costs and, in turn, the allocation of resources in terms of subsectors. Apart from economic factors, problems of educational financing arise from specific conditions. During the military regime, the physical facilities of the educational system deteriorated due to lack of maintenance, repairs, and replacements. Further to this, in the 1979 war and its aftermath, several school buildings were damaged and many schools and institutions all over the country were looted. Third, by the beginning of the 1980s there was a strong social demand for education which had built up after having been suppressed throughout the 1970s (UNESCO 1985).

Table 5 presents the percentage allocation to different levels of education for selected years since independence. Heavy expenditure on primary education in the 1960s was in pursuance of universal primary education. Unfortunately this goal had not been attained by 1987. Parents pay school fees to cover caution money, uniform fees, lunch fees, building fees and teachers' welfare fees. This parental contribution is rising steadily and varies from school to school. Teacher-education, technical education, and higher education costs are covered totally by the central government.

Major international agencies such as UNESCO, UNDP, the World Bank, the United Nations Children's Fund,

Table 5

Allocation to education by level, 1962-81 (%)

Year	Primary	Secondary	Higher	Teacher training	Technical and commercial
1962	25.7	30.3	22.8	6.8	3.9
1969	44.6	23.1	16.0	6.1	4.3
1974	31.0	22.0	20.0	10.0	4.0
1975	32.0	24.0	19.0	8.0	4.0
1981	23.0	37.0	20.0	8.0	7.0

and the World Food Programme have injected funds into Uganda, which have been used for the capital development of the various educational institutions and for paying expatriate teachers.

4. Supply of Personnel

Given the high rate of teachers' employment mobility, it is virtually impossible to obtain reliable statistics on numbers of teachers. There is, however, a persistent and acute shortage of professional and technical personnel. For example, 40 percent of the approved posts for education technicians were not filled.

The percentages of unfilled approved teaching posts in 1979 were: 16.2 percent in primary schools, 26.2 percent in secondary schools, 4.3 percent in teacher colleges, and 33 percent in technical schools and institutes. In 1980, the numbers of teaching personnel at the various levels of education were: primary 38,422; technical schools 157; teacher-training colleges (grade 2) 315; O' level secondary school 3,202; technical institutes 86; teacher-training colleges (grade 3) 58; Uganda Technical College 89; and Makerere University 583. With the education expansion in these levels during the 1980s, the shortages have not been halted.

Primary-school teachers in Uganda are trained in teacher-training colleges. Graduates of primary education who wished to become teachers used to be able to join the grade 2 teacher-training colleges, while O' level graduates joined grade 3 teacher-training colleges. Grade 2 teacher-training colleges were, however, phased out in 1986. Nonetheless, there are still many unqualified primary-school teachers in schools. Some inservice courses are therefore planned for this category of teacher to enable them to improve, but because of lack of funds there is a great insufficiency of such courses.

The newly established School of Education of Makerere University is responsible for training secondary-school teachers and teacher trainers for teachers' colleges and national colleges in the country. Students who attend the national teachers' colleges obtain their diplomas through the School of Education. Although there is need for inservice education for this level, there are no regular established programmes for such. The Uganda Technical Colleges and Uganda Colleges of Commerce focus on specialized training of various cadres, e.g., technicians and stenographers respectively.

5. Curriculum Development and Teaching Methodology

Throughout the 1960s syllabi were formulated by subject panels run by the Ministry of Education inspectorate. At the secondary-school level, each syllabus had to dovetail into the equivalent syllabus of the East

African Examination Council (EAEC). The teacher-training college syllabi were prepared by the National Institute of Education at the University of Makerere. In 1973, however, the National Curriculum Development Centre (NCDC) was founded. All its work is conducted by subject panels consisting of teachers and representatives from the examining board, the teacher-education institutions, the university, and the inspectorate. The panels decide, under the general aegis of the NCDC, on the syllabi for each subject at each grade level, write the textbooks (or other materials) and teachers' guides, try them out, revise them, and print them. All curriculum syllabi and materials are reviewed by national conferences on education or policy-review commissions on education. This is primarily to ensure the economic, social, and political relevance of the curriculum.

After revision and printing, the curriculum for a subject or grade level, or cluster of subjects and grade levels, is implemented. It is a standard curriculum for the whole nation. The inspectorate of the Ministry of Education is responsible for implementation, and a series of systematic checks are carried out to ensure not only that curriculum materials arrived at the school but that the teachers are following the teacher guides.

At the beginning of the 1980s, the NCDC began to work on innovative modules for skills training. This involves, for example, using village craftspeople to teach in the schools. The teacher guides and the new type of modules are expected to improve teaching methods. It should be emphasized that teachers' guides often include alternative teaching methods and it is the teachers who select the method or combination of methods they will each use.

However, given the financial constraints, and despite the work of the NCDC, not all goals have been achieved, and materials and modules do not exist for every subject area at every grade level, nor, as has been said, do qualified teachers. School administrators hope that the core curriculum will be reduced, but the nation's demand for relevance of curricula, quality of education, functional education, education for development, education for self-reliance, basic education, functional literacy, and lifelong education has tended to imply an increase in the number of subjects taught.

6. Examinations, Promotions, and Certification

External examinations determine entry from one level of education to the next. At the turn of the 1980s, the East African Examinations Council was replaced by the Uganda National Examinations Board (UNEB), which also assumed the role of an examining board for the terminal Primary Leaving Examination (PLE). The machinery for systematic processing of test items and examination papers is still the same as was available to the East African Examinations Council, and innovations in quality, format, and content of test instru-

ments continue to evolve. The UNEB conducts the following examinations:

- (a) The Primary Leaving Examination—taken at the end of the seventh year of primary education mostly by 13-year-olds. The examination is really a certification one but is used by postprimary institutions to select the intakes for secondary schools and junior technical institutes. For instance, in 1981 nearly 150,000 pupils took the examination, and out of this number about 30,000 were selected for various postprimary institutions (with 25,000 joining secondary schools).
- (b) The Uganda Certificate of Education—a certification examination taken by secondary-school students at the end of the fourth year of secondary-school education. The results of the examinations are used by head teachers of A' level schools to select students for A' level classes, government training institutions, technical colleges, and grade 3 teacher-training colleges.
- (c) The Uganda Advanced Certificate of Education—a certification examination, but used for the selection of advanced secondary students for university, national teacher colleges, technical colleges, and government employment agencies.

Within the three levels of the educational system, pupils have to sit class tests or examinations, the results of which are used by the schools or institutions to promote pupils to the next class.

7. Educational Research

The evolution of educational research in the 1960s and 1970s has been minimal. The main educational issues researched over that period include educational and vocational aspirations of primary leavers; achievement motivation of teachers; personality correlates of academic performance; and the role of psychological tests in promotion from primary to secondary schools.

At the beginning of the 1980s, research interest centred on improvements in student achievement and teacher behaviour. It is conducted by interested individuals.

8. Major Problems

Four major problems can be identified: (a) increasing illiteracy; (b) a high dropout rate at almost every level of the educational system; (c) the widening gap between the educational programmes offered in schools, and institutions and the actual openings available for school graduates in the employment market; and (d) the shortage of qualified teachers and the increasing number of unqualified teachers.

There is an increasing attempt to provide equal educational opportunities, evidenced by the number of new schools being opened. To narrow the growing gap between school programmes and the development needs of the country, practical subjects have been introduced. One area for priority attention is technical education, which is provided in five technical institutions and 10 technical secondary schools. Agriculture is taught as a subject in most secondary schools and productive education is being emphasized. The supply of teachers at all levels is being tackled by expanding teacher education. This training expansion is coupled with retraining programmes but these are limited in number. While reorientating the curriculum is a major step in fighting the problem of a high dropout rate, studies will be conducted too to determine the reasons for dropout and steps then taken to combat the problem.

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United Arab Emirates

F. M. Mina

The United Arab Emirates was formed in 1971 and is a federation of the seven emirates formerly known as the Trucial States; Abu Dhabi, Dubai, Sharjah, Ajman, Umm al Quawain, Ras al Khaimah, and Fujairah. The area of the state is approximately 92,100 square kilometres (32,300 square miles) and it is bounded in the north by the Gulf, in the east by Oman, in the south and west by Saudi Arabia, and in the northwest by Qatar.

The United Arab Emirates is an Islamic state, headed by a supreme council, which is composed of the seven rulers. The council elects the president and appoints a council of ministers. Legislation and the federal budget are submitted to a federal national council of 40 elected members. The foreign policy of the United Arab Emirates is determined by its membership of the Arab, Gulf, and Moslem group of states.

By the end of 1971, the total population of the country was estimated at around 180,000, and in the 1980 census as 1,040,275 (including foreign workers). The population was distributed among the different emirates as follows: Abu Dhabi, 449,000; Ajman, 36,100; Dubai, 278,000; Fujairah, 32,200; Ras al Khaimah, 73,700; Sharjah, 159,000; and Umm al Quawain, 12,300. More than 80 percent of the population live in the capitals of the emirates. The population growth rate was estimated as 3.2 percent by 1979. By 1985 the total population of the country was 1,327,000.

The economy of the United Arab Emirates is based largely upon oil, with some other activities, particularly agriculture, livestock, fisheries, and industry. Al Ain in Abu Dhabi constitutes the main agricultural area, where there are about 15,000 hectares of cultivated land. A construction industry, oil and gas extraction, and a steel-rolling mill exist in Abu Dhabi, an aluminium industry is in Dubai, and cement factories are in Dubai, Sharjah, and Ras Al Khaimah. In 1979, imports amounted to US\$6,483 million while exports and re-exports totalled US\$13,475 million. Oil exports accounted for about 95 percent of the total. More than 70 percent of total imports were from Japan, the United Kingdom, the United States, the Federal Republic of Germany, France, Italy, and other Western countries. Some other basic economic indicators are:

- (a) Growth in the gross national product during 1980 was estimated at 21.6 percent.
- (b) The per capita income is US\$15,020 (exceeded only by Kuwait with US\$15,970, and Qatar with US\$15,050).
- (c) The federal budget increased from 9,715,693,900 dirham (Dh) (US\$1 = Dh 3.69) in 1979, to 15,972,316,000 Dh in 1980, with an investment

budget of 1,611,487,900 Dh in 1979 and 4,602,416,000 in 1980.

- (d) The total economically active population (10 years old and over) was estimated in 1975 as 437,708 and was distributed as follows: total labour force 296,516; total not gainfully employed 125,379; total unable to work 14,820; and 993 not stated. The main occupations were: production and related workers (154,213); services workers (46,688); clerical and related workers (31,373); professional, technical, and related workers (22,026); sales workers (18,080); agricultural, animal-husbandry, and forestry workers, fishermen, and hunters (13,732); and administrative and managerial workers (5,840); the total number of female workers was 9,961.
- (e) The numbers of foreign persons granted work permits are as follows: 127,938 (1975); 239,555 (1976); 226,509 (1977); 164,401 (1978); and 120,109 (1979).

The basic aims of the United Arab Emirates economic policy are: expanding investment in sectors other than the oil industry in order to move from a single-product-based economy; controlling the oil industry by sharing the capital of foreign oil companies and thus gaining a greater say in determining the size of production; and preparing and encouraging local personnel to work in different fields.

1. Goals of the Educational System

The main goals of the educational system in the United Arab Emirates are:

- (a) democratizing education by providing free education to all citizens and providing continuous education;
- (b) enabling individuals to exercise their public and personal rights as well as performing their duties;
- (c) establishing social and political unity between groups and individuals;
- (d) transmitting the cultural and spiritual heritage of the community; and
- (e) preparing efficient personnel in different fields.

2. Structure and Size of the Education Effort

2.1 Formal Education

Up to the early 1950s, only the traditional *Kuttab*s existed in the Trucial States, where rote memorization of the Koran along with basic arithmetic were taught.

The first formal school was opened in Sharjah in 1953. The Kuwait Education Department provided teachers for this school, and then opened schools in Dubai, Fujairah, Ajman, and Umm al Quaiwain. Qatar, Saudi Arabia, Bahrain, and Egypt provided assistance by building schools and financing or providing teachers, usually under Kuwaitian supervision. Technical schools were built by the United Kingdom in Sharjah (1958), Dubai (1964), and Ras al Khaimah (1969). After independence, the Kuwaiti-administered schools were turned over to the federal Ministry of Education.

The educational system in the United Arab Emirates consists of a two-year kindergarten (4-6 years); a six-year primary stage (6-12 years); a three-year preparatory stage (12-15 years) in general, religious, or technical channels; and then secondary education (15-18 years) in one of the same three channels. The first year of general secondary education is common for all students, but they stream into either arts or science sections at the start of the second year. Vocational education includes agricultural, commercial, and technical schooling. Graduates of general preparatory schools may join vocational education or teacher-training institutes (in which study lasts for three years) or enter general secondary education. All secondary graduates (whether general, religious, or vocational) and graduates of teacher-training institutes have access to the university.

The University of the Emirates was opened in 1977 with four faculties of arts, education and psychology, administrative and political sciences, and the sciences. In the next year, the Faculty of Law and Shareya

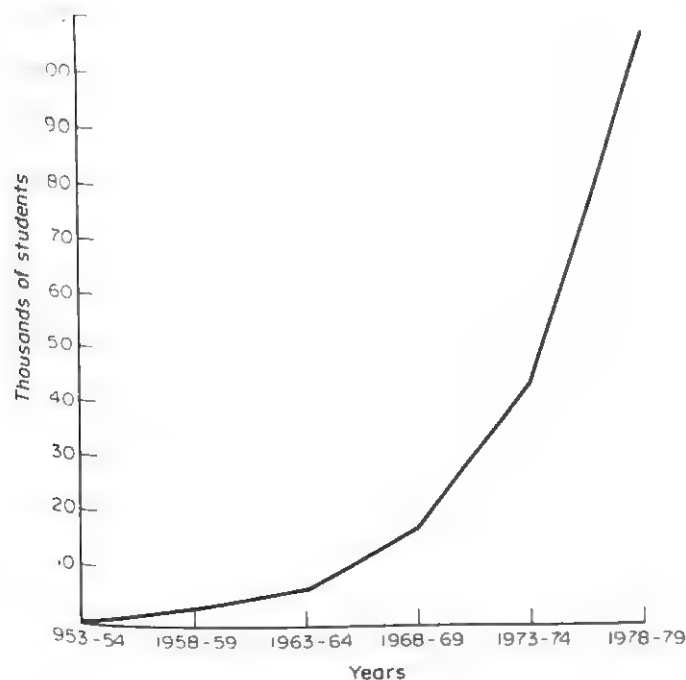


Figure 1
Total school enrolment 1953-54 to 1978-79

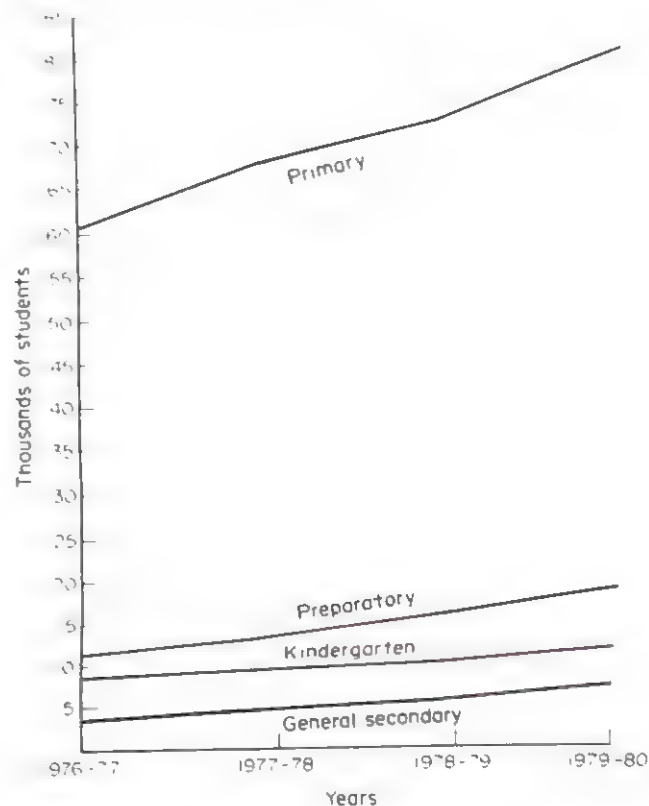


Figure 2
Enrolment in different stages 1976-77 to 1979-80

(Islamic judgments) was opened (for male students only). New faculties of agriculture and engineering were opened in 1980. The Gulf University (located in Bahrain) is being established to include faculties of medicine, education, and sciences. The Faculty of Medicine was opened in October 1982.

In the academic year 1979-80, the total number of schools was 322 (of which 57 were private schools and 8 schools of other ministries), with 4,524 classes, 124,019 students (of which 56,423 were female students), and 9,611 teachers (including 5,211 female teachers). In the same academic year, the total university enrolment was 1,754 (including 754 females and 361 foreign students). In addition, there were 1,424 students (264 female) studying abroad, mostly for a first university degree.

Figure 1 presents the development of total school enrolment from 1953 to 1978. It should be noted that accurate data about the school-age population are not available, but it is estimated that more than 50 percent of the age group are enrolled. Females account for between 25 and 40 percent of enrolment. Although people are becoming much more aware about the importance of education for women, traditions and practical factors (related to school allocation and the need of girls to work at home) are responsible for sex differences in enrolment.

Figure 2 presents increases in enrolment for kindergarten, primary, preparatory, and general secondary

schools from 1976–77 to 1979–80. All kindergartens are coeducational, and most primary schools and all schools at the preparatory and secondary levels are sex segregated. No girls are admitted to religious or vocational schools. Handicapped children are educated in Kuwait and Bahrain on government scholarships. A school for handicapped children was opened in Sharjah in 1981.

2.2 Nonformal Education

Nonformal education in the United Arab Emirates is concerned mainly with literacy (two-year programme) and general education. In 1979–80, there were 112 adult education centres with 14,089 students (3,985 females). Students were distributed by level as follows: 3,330 in first-year literacy courses (1,188 females); 2,505 in second-year literacy courses (776 females); 3,618 in primary courses (830 females); 3,223 in preparatory courses (701 females); and 1,413 in secondary courses (490 females). Special emphasis is laid on literacy classes as the illiterate population (of 10 years and over) was estimated in 1975 to be 191,153 (62,413 females) out of a total population of 437,708 (112,860 females).

3. Administration and Finance

The Ministry of Education is responsible for education at all levels. The policy adopted is "centralized planning and decentralized implementation". The main departments of the ministry are those of: finance and administration, educational planning (including divisions for projects, educational supervision, administrative supervision, national curricula, and examinations), cultural affairs, training, audiovisual aids and laboratories, social welfare, physical education, and boy scouts and youth welfare, in addition to the ministry's offices in different educational zones.

Budgets devoted to education in the United Arab Emirates are increasing and are relatively large. Current budgets of the Ministry of Education and Youth were 62,464,420 Dh in 1972, 346,585,496 Dh in 1975, and 1,081,393,200 Dh in 1980. The ministry's current budget in 1973 represented 9.6 percent of total government expenditure, while in 1980 it represented 11.4 percent of this total. The total development expenditure was more than US\$700 million from independence to 1980. Apart from the private sector, education is free at all stages, and allowances for transportation, books and food are provided to students.

4. Supply of Personnel

The majority of personnel in education are appointed from other countries. In 1978, the total number of teachers was 5,094, of which 6.8 percent were United Arab Emirates citizens, and there were 1,253 administrators, of which only 17.2 percent were United Arab

Emirates citizens.

Most teachers and administrators of kindergarten and primary schools are graduates of teacher-training institutes and secondary education, while most of those of preparatory and secondary schools have a university degree. More than 50 percent of teachers and administrators possess no professional educational training.

5. Curriculum Development and Teaching Methodology

Special committees of experts—in different subjects—are appointed to design curricula as well as to write textbooks, which are the same for the whole country. Educational supervisors are responsible for ensuring that curricula are sufficiently implemented.

Major aspects of curriculum policy include a strong emphasis on religious education, the introduction of "new" mathematics, and the use of audiovisual aids, but in many respects teaching methods in the classroom are still traditional.

6. Examinations, Promotions, and Certification

Apart from the kindergarten stage, promotion at almost all educational stages depends mainly on annual local written examinations held at the end of the year and a general certificated examination held at the end of the preparatory and secondary stages at regional or national level. In moving from one grade to another the student's daily work as estimated by teachers and school examinations accounts for part of the total marks.

7. Educational Research

Educational research in the United Arab Emirates is confined mainly to some individual work and ad hoc committees. It is expected that the recently established university will increasingly take a considerable part in educational research.

8. Major Problems

The major problems to be tackled in the next two decades are: the great shortage of native teachers and administrators; illiteracy and dropouts; educational facilities in Bedouin and remote areas; the people's motivation to acquire education, especially vocational education; and the organization of bodies for educational research.

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United Kingdom

C. Booth

The United Kingdom is located on a number of islands on the western edge of the European continental shelf. The population and land area are distributed as shown in Table 1. Providing for the 28 percent increase in births which took place between 1954 and 1964 has been a major preoccupation of education policy makers in central and local government, as has been the contraction of each part of the educational system as the effect of the 35 percent decline in births between 1964 and 1977 made itself felt.

Immigration has had important consequences for the educational system. Ethnic minorities tend to be concentrated in certain of the larger urban areas, especially London, and require from the educational system in these areas recognition of their special needs, particularly in respect of languages and cultural differences. Special language requirements also arise in Wales and Scotland, where the indigenous language is still spoken and taught in some educational institutions.

Table 1
Distribution of population and land area

	Population (millions, 1980)	Land area (million hectares)	Population per square kilometre
England	46.5	13.0	356
Wales	2.8	2.1	134
Scotland	5.2	7.9	66
Northern Ireland	1.5	1.4	109
Total (or average)	55.9	24.4	(229)

The occupation of the head of family is sometimes used to describe the social-class structure (Table 2). In general, children's educational attainment, whether in terms of performance in reading and arithmetic tests or of level of qualification obtained, is related to their parents' social class. So, too, is susceptibility to unemployment: in 1980, about one-third of the male unemployed were unskilled. Unemployment is also age-related: over 40 percent of all unemployed persons are under 25.

Government concern about the effects of economic recession and high unemployment (12.8 percent in mid-

Table 2

Percentage distribution of social class according to head of family's occupation 1971

Social class	Head of family's occupation	Percentage distribution
I	Professional	5
II	Intermediate (including most managerial and senior administrative occupations)	20
IIIN	Skilled nonmanual	12
IIIM	Skilled manual	38
IV	Partly skilled	18
V	Unskilled	7

1982) has been reflected in calls for the educational system to play its part in alleviating unemployment and paving the way for economic recovery. For example, schools have been giving increasing emphasis to the preparation of young people for working life, and colleges have been involved in special training schemes for the young unemployed as well as retraining for older people. The higher education system is being encouraged to give priority to scientific and technological disciplines which are important to the economy.

The main sectors of the economy, and the number of employees in each, is shown in Table 3. The most

Table 3
Distribution of employment 1961-80

	Number of employees (thousands)		Percent change 1961-80
	1961	1980	
Agriculture, forestry, and fishing	710	370	- 48
Mining and quarrying	727	344	- 53
Manufacturing	8,540	6,808	- 18
Construction	1,485	1,265	- 15
Gas, electricity, water	389	347	- 11
Services (banking, transport, public administration, etc.)	10,382	13,379	+ 29
Total	22,233	22,513	+ 1

notable change in the external economy over the 1970s was the reorientation of international trade away from the "traditional" trading partners in the Commonwealth towards the European Economic Community, which the United Kingdom joined in 1973. Import penetration of manufactured goods has been increasing steadily. The balance of trade has, however, been increasingly favourably affected by the development of North Sea oil and gas.

The government structure of the United Kingdom reflects the separate historical and legal development of its components: England, Wales, Scotland, and Northern Ireland, each of which has its own department of the central government responsible for education. This article will describe the educational system of England and Wales, drawing attention only to the more significant variations which occur in the systems of Scotland and Northern Ireland.

The United Kingdom is a parliamentary democracy. The government is normally formed by the political party able to win support from a majority of members elected to the House of Commons. During the past 30 years the Labour and Conservative Parties have had alternate periods in government, occasionally depending upon support from other parties.

The prime minister is normally the leader of the main party forming the government and is responsible for appointing the Cabinet, in which most major policy decisions are taken. The secretary of state for education and science, as political head of the Department of Education and Science (DES), is the cabinet minister responsible for education in England and for the university system throughout Great Britain (i.e., England, Wales, and Scotland). The education services in Scotland, Wales, and Northern Ireland are part of the responsibilities of the secretaries of state for Scotland, Wales, and Northern Ireland respectively.

Education in the United Kingdom is often spoken of as a "national system, locally administered". A large part of the day-to-day running of the system is in the hands of elected local education authorities (which will be referred to as "l.e.a.s" in this article, although different names are used in Scotland and Northern Ireland). They are responsible for employing teachers, building schools, and purchasing books and equipment. About 56 percent of their funds come from central government mainly in the form of nonspecific grants. The balance comes from local property taxes (called "rates"), trading services, and loans.

1. Goals of the Education System

Because of the decentralized character of the educational system and the long tradition of non-interference by central government in most aspects of education, authoritative government statements on the expected role of the schools are quite rare. One of the most recent detailed statements appeared in a government consultative document issued in 1977 which tentatively proposed the following aims for schools

(Secretary of State for Education and Science 1977):

- (a) to help children develop lively, enquiring minds; giving them the ability to question and to argue rationally, and to apply themselves to tasks;
- (b) to instil respect for moral values for other people and for oneself, and tolerance of other races, religions, and ways of life;
- (c) to help children understand the world in which we live, and the interdependence of nations;
- (d) to help children to use language effectively and imaginatively in reading, writing, and speaking;
- (e) to help children to appreciate how the nation earns and maintains its standard of living and properly to esteem the essential role of industry and commerce in this process;
- (f) to provide a basis of mathematical, scientific, and technical knowledge, enabling boys and girls to learn the essential skills needed in a fast-changing world of work;
- (g) to teach children about human achievement and aspirations in the arts and sciences, in religion, and in the search for a more just social order; and
- (h) to encourage and foster the development of the children whose social or environmental disadvantages cripple their capacity to learn, if necessary by making additional resources available to them.

The higher education system is seen by government as having a triple role of developing knowledge, applying it to contemporary problems, and training highly skilled human resources; recently a fourth role, that of providing updating for adults in science, technology, and business subjects, has been given prominence.

2. General Structure and Size of the Education Effort

2.1 Formal Education

Attendance at school is compulsory for children aged between 5 and 16. The publicly financed school system for this age range is organized in two or three tiers. The two-tier system comprises primary schools [ages 5–11, except in Scotland where transfer is normally at age 12, not 11, sometimes subdivided into infant (5–7) and junior (7–11) school]; and selective or nonselective secondary schools (ages 11 to 16 or 18). The three-tier system consists of first schools (ages 5 to 8 or 9); middle schools (ages 8–12 or 9–13); and upper schools, usually nonselective (ages 12 or 13 to 16 or 18).

The two-tier system is the most common; the three-tier system is to be found only in England, where it provides for less than 15 percent of all pupils. Until 1965, most children in England and Wales were tested at

age 11 for suitability for entry to academically oriented, selective secondary schools known as grammar schools, and about one-quarter of the age group transferred to such schools. The remainder transferred to schools known as secondary-modern schools, which offered a less academic curriculum, with fewer opportunities for entering public examinations at age 16, and had very limited facilities for those wishing to continue their education beyond age 16. Since 1965, encouraged especially by Labour governments, most I.e.a.s have been reorganizing their secondary-school systems, abolishing the selection test at age 11 (the "11-plus") and introducing nonselective secondary schools, catering for all abilities and known as comprehensive schools. The great majority of children aged 11-16 are now educated in comprehensive schools.

Religious organizations, mainly the Protestant churches and the Roman Catholic Church, continue to play a part in the running of some primary and secondary schools, known collectively as voluntary schools. However, most of the finance for such schools is provided by the I.e.a.s or central government and they are generally regarded as part of the publicly maintained sector. The private sector, consisting of schools run by private individuals, companies, or charitable trusts, is not large: about 5 percent of children aged 5-16 are educated in private schools.

Special educational provision is made for physically and mentally handicapped children, mainly in special schools for particular types of disability but also increasingly in ordinary schools because of the social and educational benefits that this can bring.

Children over the age of compulsory school attendance (16) may continue in the same school in what is

known as the "sixth form", usually for two further years, or they may transfer to a separate institution such as a sixth-form college (catering mainly for full-time 16- to 18-year-olds), tertiary college, college of further education, or technical college. The last three of these are essentially similar, cater for all ages over 16, and offer a wide range of vocational and academic courses, full- and part-time.

Education for those who have left school can be divided into two categories: nonadvanced further education (NAFE) which consists of courses provided up to the standard of the General Certificate of Education (GCE) at Advanced (A) level (see Sect. 7); and higher education, which consists of courses above this level provided in universities (autonomous institutions dependent upon public funds) and by colleges maintained by I.e.a.s, some of which are known as polytechnics. (In Scotland, there are 14 "central institutions", financed direct by central government.) Many I.e.a. colleges offer courses of both further education and higher education. The universities and polytechnics are the main centres of degree-level work and research; the polytechnics are especially strong in part-time higher education and recruit relatively high proportions of students aged 21 and over. A first degree in the United Kingdom usually requires three years of full-time study but some courses require four years or more.

Table 4 shows the proportions of various age groups participating in education (Central Statistical Office 1982). The most important developments since the 1940s have been:

- (a) a large increase in participation among the under-5's;

Table 4
Participation in education by percentage of age group 1978-79

Age group	Full-time (FT) or part-time (PT)	Schools	Percent of age group in		
			Nonadvanced further education	Higher education	All education
2-4	Both	28	—	—	28
5-10	Both	100	—	—	100
11-15	FT	100	—	—	100
16	FT	51	10	—	81
17	PT	—	20	—	—
18	FT	21	10	1	56
19	PT	—	24	—	—
20	FT	7 ^a	6	6	35 ^b
21	PT	—	22	1	—
22	FT	— ^a	3	11	35
23	PT	—	20	1	—
24	FT	— ^a	2	12	30
25	PT	— ^a	14	2	—
26	FT	— ^a	1	5	24
27	PT	— ^a	16	2	—

^a Official statistics place all those aged 18 years and above attending school in the "age 18" category and show them as a proportion of the 18-year age group. ^b The percentage shown under "All education" results from adding the percentages in the other columns. Because of double counting, this will slightly overstate the actual proportion of the age group participating from age 18 onwards.

- (b) the raising of the school-leaving age by one year in 1947 and a further year in 1973;
- (c) the growth of nonadvanced further education;
- (d) the growth of higher education, especially following the Robbins Committee's Report in 1963; and
- (e) the decline in teacher training since 1973.

Regional and local differences in participation in full-time education by young people in the 16 to 19 age group have been shown by studies undertaken by the Department of Education and Science to reflect socioeconomic status. As far as sex differences are concerned, a higher proportion of females than males remain in full-time education between the ages of 16 and 18, but in higher education males outnumber females. Proportionately fewer women than men participate in part-time day courses.

2.2 Nonformal Education

Courses of adult and continuing education are provided by I.e.a.s, the extramural departments of universities, and certain other bodies such as the Workers' Educational Association. Most of the courses are part-time (day or evening), but a few are for short residential periods, and a very few are in publicly financed long-term residential colleges. A wide range of subjects is on offer, from basic education (such as literacy) and examination courses in academic or vocational subjects to education in artistic or cultural pursuits. Fees are charged and are often expected to cover the full cost of the course.

About 70,000 students are enrolled on degree courses with the Open University (OU), which offers tuition by a combination of television, radio, correspondence texts, and personal tuition. No formal academic qualifications are required and the flexibility of study arrangements is a popular feature of the Open University's courses, enabling a high proportion of study time to be spent in the home. Degrees are awarded on the basis of credits gained by success at each stage of the course.

The Youth Service exists to promote the social and informal education of young people by offering them opportunities in their leisure time to mix socially and develop their range of interests. The service is provided in clubs and centres by a partnership between public authorities including I.e.a.s and a large variety of voluntary organizations, but it is not a national voluntary youth movement. Most youth-service activities are focused on local clubs and centres. Some concentrate on social and recreational pursuits, others on educational or religious activities.

3. Administrative and Supervisory Structure and Operation

Each school has a governing body consisting of laypersons which will normally meet three times a year.

However, most important decisions are taken either by the professional teachers (especially headteachers) or by the I.e.a., where both elected members and full-time officers (especially chief education officers) are influential. Detailed questions of curriculum and teaching style are matters usually left to the discretion of the professional teachers. Local education authorities tend to be more concerned with broad questions of resources—staffing, buildings, equipment, and consumables—and in a general sense with the curriculum.

Although the central government departments have surprisingly few direct powers over I.e.a.s, they are nevertheless able to exercise considerable indirect influence by drawing attention to particular problems and offering advice. For the role of Her Majesty's Inspectors of Schools, see Sect. 6 below.

Except in Scotland, where the local authorities have regional coverage, there is no regional structure for the general administration of education, although regional bodies exist in England for secondary-school examinations and for coordinating further education.

The polytechnics and other I.e.a. colleges of higher education have governing bodies and considerable freedom over the management of their affairs, but not so much as the universities, which are autonomous. The universities receive government funds indirectly through a mediating body, the University Grants Committee (UGC), which was created in 1919 specifically to insulate them from direct government influence.

Special funds for training programmes for the unemployed are provided by the Department of Employment and the Manpower Services Commission.

4. Finance

The proportion of the gross national product devoted to education reached a postwar peak of 6.2 percent in 1974–75. It had dropped to 5.4 percent by 1977–78; at this time, education expenditure was approximately 13 percent of total public expenditure and it remained at about this level until 1980–81. Government plans envisage a reduction to about 12.5 percent by 1983–84. Public expenditure on education in England in 1980–81 is shown in Table 5. No estimates are available of the proportion of private resources devoted to education.

United Kingdom students attending first-degree or higher diploma or equivalent courses qualify for a grant from their I.e.a. to cover tuition fees and personal living costs, but the level of grant paid depends upon their parents' income. The maximum grant payable in 1982–83 for living costs for 30 weeks of study was £1,595 per annum for students outside London living away from home. Other students may apply to their I.e.a. for a "discretionary grant"; however, successful applicants seldom receive the level of support given to first-degree students. At present, there is no government-sponsored student-loans scheme although the possibility has been, and is being, considered.

Table 5
Public expenditure on education 1980-81 (£ million at November 1979 prices)

	Public expenditure (net of income)	Percent	Expenditure per student ^b
Preprimary	176	2	410
Primary schools (current)	1,633	19	429
Secondary schools (current)	2,349	28	613
Other schools related (current) (including special schools, transport, meals)	685	8	—
Schools (capital)	267	3	—
Nonadvanced further education (current)	589	7	1,219
Higher education (current)	1,819 ^a	21	3,638
Higher and further education (capital)	188	2	—
Adult education	47	1	—
Youth Service	68	1	—
Research councils	347	4	—
Other	360	4	—
Total	8,528	100	—

a Includes £657 million for student maintenance grants, a small proportion of which benefits students in nonadvanced further education. b Obtained by dividing net expenditure by number of full-time equivalent students in each case. This figure should be regarded only as a broad indicator of cost per student because it is based on net expenditure.

5. Supply of Personnel

The number of teaching and research staff in England and Wales in 1979-80 was as follows (no information is available for nonteaching staff): public-sector schools, 475,000; independent schools, 34,000; further education (advanced and nonadvanced), 79,000; and universities (including research staff), 28,000. The average number of pupils per teacher in public-sector schools in the United Kingdom fell from 22.4 in 1971 to 19.1 in 1979 in spite of a growing school population for most of this period. (In Scotland the fall was from 22.3 to 17.7.)

There are three main ways of gaining the qualifications necessary to become a teacher: (a) three-year courses leading to a nongraduate Certificate in Education (which is being phased out); (b) three- and four-year courses leading to a Bachelor of Education degree; and (c) one-year postgraduate courses for those who have already gained a first degree. From 1984, entry to the teaching profession will be by graduate routes only. In addition, competence in mathematics and English language at GCE Ordinary-(O') level standard will be expected.

During their training, teachers may specialize in subject or level (e.g., primary or secondary) and in Scotland they can teach only at the level for which they are qualified. No formal teacher-training qualification is required for teachers in further or higher education.

During the 1970s the nonuniversity sector of teacher training in England and Wales underwent a major reorganization affecting in particular the colleges of education which had hitherto provided courses exclusively in teacher training. This was accompanied by a sharp contraction in the number of places for initial and inser-

vice training from 80,000 in 1976-77 to 46,000 in 1981, a contraction necessitated by the decline in the school population, which began in the late 1970s and is likely to continue to the late 1980s.

In spite of this severe contraction of the teacher-training system, there are still more teachers available than teaching posts and some teachers are unemployed. However, teacher shortages persist in certain subjects, notably the physical sciences, mathematics, business studies, and craft, design, and technology. The reasons for these shortages are complex and almost certainly reflect both the supply of graduates and the competition from other types of employment. A government scheme for training or retraining teachers in certain shortage subjects was introduced in 1978-79, enabling mature teachers and other suitably qualified people to become specialist teachers.

6. Curriculum Development and Teaching Methodology

In the UK, there has been no nationally determined curriculum. However, the examinations boards which have controlled the general certificate of education (or its equivalent) exerted something of a unifying influence on what was taught in secondary schools. In 1987, the government proposed the introduction of a national curriculum. How this will work out in practice remains to be seen.

Her Majesty's Inspectors of Schools (HMI) are responsible to the secretary of state for the inspection of all schools, including independent schools. They investigate and report on all aspects of education in schools,

including the curriculum, and make advice available to the schools and I.e.a.s as well as the government. In addition, I.e.a.s usually employ their own inspectors, advisers, or organizers to assist their schools and they provide teachers' centres where teachers meet for curriculum-development work and inservice training.

Learning materials are provided by a wide range of private and public enterprises including publishing firms, teachers, and higher education institutions. In England and Wales, the Schools Council for Curriculum and Examinations, a public body representative of all educational interests, develops and tests materials on curricula, teaching methods, and examinations in primary and secondary schools. It has published a wide range of booklets and reports. In 1982, the government announced its intention of replacing the council with two separate smaller bodies, an Examinations Council and a School Curriculum Development Council. In Scotland and Northern Ireland, committees on the curriculum play a parallel part to the Schools Council.

In spite of two decades of experiment and innovation, teaching methods in schools remain mainly traditional, with emphasis on teacher-led presentations and discussion and individual private study. This is not to say that teaching methods have remained static: primary schools in particular have seen important changes since the 1950s.

The achievements and problems of the schools have been highlighted in two major reports by the Inspectorate. In *Primary Education In England: A Survey* (HM Inspectors of Schools 1978), it was noted that work in reading and mathematics was better matched to the children's capabilities than work in other parts of the curriculum but more needed to be done to extend the range of reading, writing, and mathematics through the effective application of skills, including their use in practical activities. While physical education and music were comparatively well taught, some geographical and historical studies were rather superficial, and in science, work was weak overall. Teachers required help through initial and inservice training and needed to raise their expectations of what children, especially the more able, were capable of doing.

Aspects of Secondary Education in England: A Survey (HM Inspectors of Schools 1979) reported much sound achievement and some work of real distinction. Secondary schools did not neglect basic skills and were anxious to respond to public and parental expectations. Serious disparities between the resources available from school to school were noted and there were deficiencies in science accommodation and libraries. The preoccupation of schools with public examinations at age 16 had some adverse effects, especially on styles of teaching. While some encouraging developments were found in mathematics and science, both subjects needed to be related more to the world outside: excessively narrow concentration on drills practised in isolation often proved to be self-defeating. A considerable number of pupils dropped out of science at 14 and many

others studied only one science subject. The report pointed to the need for a new rationale for the secondary-school curriculum and a simpler structure with fewer options.

7. Examinations and Certification

Progress through school depends chiefly on age rather than attainment; there is no grade system. The majority of children thus move through the school system with other children of the same age. Teachers, nevertheless, use a variety of methods to monitor pupil progress.

Until 1988, secondary-school pupils could attempt examinations in various subjects leading to the certificate in secondary education (CSE) or the academically more demanding general certificate of education, ordinary level. However, in 1988 these two examinations were abolished and replaced by a single examination — the general certificate of secondary education (GCSE). This examination is organized by five independent examining groups in England and Wales and one in Northern Ireland. Scotland has undertaken a separate but similar reform.

The GCE Advanced (A') level examination is normally taken by school pupils in up to three or four subjects two years after GCE O' level and is the standard for entrance to higher education and many forms of professional training. It has been criticized for encouraging premature specialization but proposals for alternative systems have not found general acceptance. In Scotland, the SCE Higher (H') grade requires one year of study beyond SCE O' grade and enables pupils to maintain a breadth of study in five or six subjects which is not possible with the more specialized GCE A' level.

For the less academically oriented pupils who remain in full-time education until age 17, the government recently announced proposals for a new "prevocational" examination which will absorb the experimental Certificate of Extended Education.

In connection with the proposed national curriculum mentioned earlier, the government is proposing to introduce nationwide assessment for all pupils of 7, 11, 14 and 16 years of age. It is proposed that this testing be partly through teaching assessment, but with schools being calibrated into one scale, and partly through the administration of national tests.

The system of examinations in further and higher education is complex but it provides for a wide variety of modes and levels of study.

8. Educational Research

Educational research in the United Kingdom originated about a century ago, when some universities established chairs of education, the occupants of which emphasized the need for the systematic study of education and for a scientific approach to such study. Early work was

focused on psychology, history, and comparative studies. Between 1900 and 1945, the effort devoted to educational research in the United Kingdom was small. Nevertheless, research in such areas as mental testing and child development had important influences on educational practice.

Educational research shared the impetus received by the educational system generally during the period of postwar reconstruction after 1945. A National Foundation for Educational Research (NFER) was established in 1947 with financial assistance from I.e.a.s.

Educational research has drawn on psychology, philosophy, history, and sociology, among other disciplines, in its development. Thouless and Wiseman in a review of educational research up to 1968 identified more than 20 major fields of study (Thouless 1969). The *Register of Educational Research in the United Kingdom* (Vol. 3: 1977-78) lists 2,000 research projects being undertaken in 240 bodies (National Foundation for Educational Research 1979).

The single largest source of educational research funding is the Department of Education and Science, which gives priority to "policy-related" research. Projects supported in 1982 covered eight main areas: pre-school; pupil performance; children with special needs (including learning difficulties, the handicapped, and ethnic minorities); the transition from school to work; the curriculum; teacher training; management in education (e.g., the management of the teaching profession at a time of declining enrolments); and further and higher education.

9. Major Problems

There is plenty of scope for disagreement on what are the major problems for the future: the arguments depend in part upon political beliefs and values and on such hotly debated questions as what is the relationship between resources and pupil performance. The following is a personal selection of major problems.

- (a) Shortage of resources: efforts will be made to improve and generate new sources of funding, but these may be insufficient to prevent a decline in pupil performance and the quality of education.
- (b) Demographic change: the effect of the sharp fall in births between 1964 and 1977 will be felt in secondary, further, and higher education. Closures and mergers of schools and colleges will be required to prevent the formation of too many costly and educationally narrow small units, but planning must allow for renewed growth in primary-school enrolments in the mid-1980s and in secondary-school enrolments in the early 1990s.
- (c) Curriculum: in secondary schools, as enrolments fall, some minority subjects will be threatened (e.g., modern languages other than French). Local education authorities will need to consider the provision of such subjects across groups of schools, ensuring their preservation in selected schools where they are accessible to all pupils in the area. The shortage of teachers in certain subjects has been mentioned in Sect. 5 above. Special training schemes will be required and existing courses of teacher training in shortage subjects will have to be safeguarded.
- (d) Public examinations: there will be little comfort for those concerned about the growing domination of the curriculum by public examinations. A unified examination at age 16 will be introduced (see Sect. 7) and there may be some simplification of the complex examination structure in further education.
- (e) Contraction and reorientation of higher education: demographic changes and reduced resources will force closures of smaller institutions, some departments, and some courses. Student-to-staff ratios will increase. Funding bodies will take steps to preserve the research effort especially in applied science and technology and in centres of excellence.
- (f) Continuing education: new programmes for mid-career updating and retraining, perhaps using distance-learning techniques pioneered by the "Open Tech" concept introduced in 1981, will make slow progress because of limited funds and weak employer support.
- (g) Ageing of the teaching force, leading to stagnation and low morale: an older teaching force may be a better one because of its greater experience. But steps will be needed to restructure pay and grading systems to create more incentives. New methods of teacher assessment, including self-assessment, will be introduced. There will be improved inservice training schemes for mid-career teachers and measures to permit the shedding of the least effective teachers, thus creating more room for the recruitment of able young teachers.
- (h) Alienation of youth: high youth unemployment, the breakdown of parental discipline, and other factors may create an increasingly alienated youth culture. There may be little the educational system can do to counter such large social changes. Temporary schemes for the unemployed will have limited value. Perhaps the greatest challenge for the educational system is to show that it can bridge the gap between young people and the rest of society, and thereby acquire new political importance as a force for social cohesion.

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United States

M. A. Eckstein

History, geography, and demography have all influenced the forms and functions of the educational system of the United States. A nation of some 9.404 million square kilometers in area (3.631 million square miles), it encompasses several outlying territories (Puerto Rico and the Virgin Islands, Hawaii and the Pacific Islands, and Alaska) but is for the most part a compact territory extending about 2,400 miles from the Atlantic to the Pacific Oceans, and 1,600 miles from Canada in the north to Mexico in the south. Located in the temperate zone, it nevertheless contains great variations in physical geography, seasonal climate, flora, and fauna.

A rather sparse indigenous population of Indians became rapidly outnumbered by successive waves of immigrants, first from Britain and then from Germany, Scandinavia, Southern and Eastern Europe. Immigrants continue to enter the United States, though on a relatively reduced scale, not only from Europe but also from Asian countries and Central and South America. In addition, descendants of slaves imported from Africa during colonial and early postcolonial years and migrants from the Caribbean island form a substantial black minority. The ethnic origin of the majority (87 percent) of the United States population is white; blacks comprise some 11 percent, while Asians account for about 1.5 percent.

The population of the United States totals 220,099,000 (the fourth largest in the world). The annual growth rate in 1981 was approximately 0.8 percent, a decline over previous years. In 1978, 48 million of the population was aged 5-17 years while 24 million was 65 years or over. About one-quarter of the population is rural (living in places of fewer than 2,500 persons) compared with about one-third in 1950. However, the very largest cities (with populations over one million) have recently begun to lose residents especially from their older town centers, while small and medium sized

cities of between 10,000 and 100,000 population account for a growing proportion of the nation's residents.

This combination of geographical and demographic characteristics results in great diversity from one section of the country to another. For example, the state with the largest territory is Alaska, with 590,000 square miles; the smallest is Rhode Island with only 1,214 square miles. But Alaska contains the smallest population (406,000 persons) while California alone has a population of 22,694,000. Thus state governments face very different conditions and problems in providing for schooling. Today, such cities as New York, Washington, Chicago, Detroit, and Los Angeles contain large concentrations of the poor, unemployed, non-English-speaking, and ethnic minorities, with the concomitant social and economic problems of which the provision of adequate schooling is a major consideration.

The average family size has declined from 3.61 persons in 1970 to 3.37 in 1977. In addition, the number of one-parent families has increased. About a fifth of all children live with one parent. Moreover, some 7 percent of children aged 7-11 years reside with their mother and stepfather. It is estimated that about a quarter of all children have experienced family disruption through divorce, abandonment, or the death of one parent.

Socioeconomic trends reveal a continued decline in the proportion of the labor force employed in farming, a reduced blue-collar cadre, and over 50 percent of the population employed in white-collar occupations ranging from clerical workers to professional and technical jobs. The number of people employed in technology and the distributive trades has increased substantially as a proportion of the labor force. Since the 1960s, the size of the labor force and the participation of females in it have increased substantially. Unemployment rates, however, were high (over 8 percent) in 1974-75 and again in 1980-81.

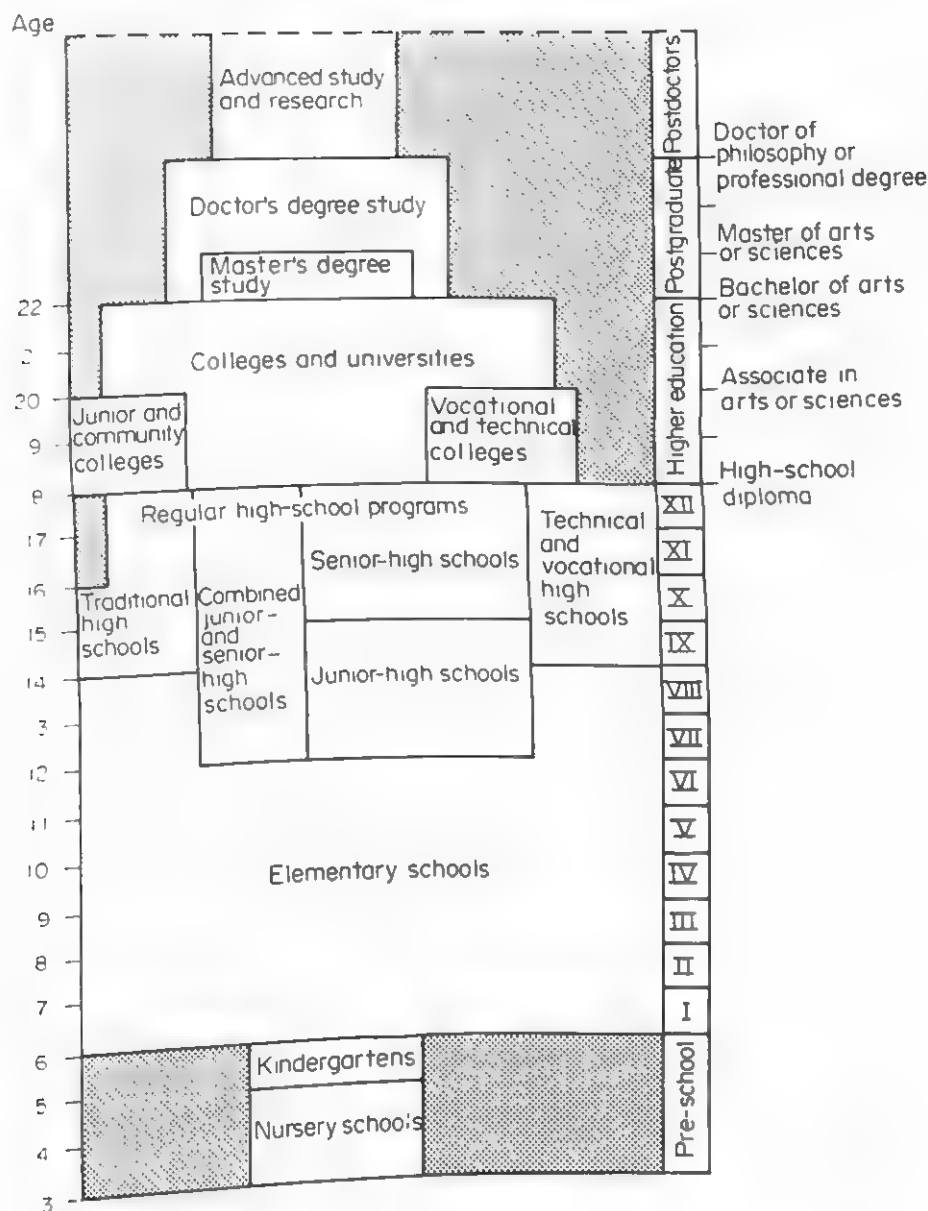


Figure 1
Structure of the educational system

Rich in land, population, and natural resources, and highly developed technologically, the population of the United States enjoys a high standard of living. It leads the nations of the world by the conventional indicators of consumption such as protein intake and energy consumption per capita. The gross national product (GNP) per capita stood at US\$9,644 per annum in 1978, and the median family income was a little under US\$20,000 per annum. At the same time, the purchasing price of the dollar declined by about half in the decade from 1967 to 1977, and the consumer price index increased by 6.6 percent per year in the period 1975-78. Annual growth rate of the gross domestic product was 3.6 percent in 1980 and imports exceed exports at an increasing pace. United States assets and investments abroad are

substantial (nearly US\$400 billion) and have been increasing in value (14 percent per annum), while foreign assets and investments in the United States have been rising at an even faster rate (approximately US\$320 billion, rising at nearly 19 percent annually in the late 1970s).

The form of government in the United States of America is based upon the Constitution of 1787 and subsequent amendments. It is made up of three coordinate branches: the executive, with power vested in a popularly elected president; the legislature, consisting of two elected House of Congress; and the judiciary. Substantial powers not reserved to the federal government by the constitution are dealt with by the 50 state governments, each having its own constitution, legis-

lature, and judiciary. Education is one of the major responsibilities devolving upon the state, which further delegates considerable responsibilities to the local units of government, counties, and local school districts (cities, towns, and local communities).

While the concept of "states' rights" is jealously guarded, the size and scope of federal activities have grown considerably, though not without serious debate and even conflict. This has been marked in educational matters, especially since about 1950, when federal authorities embarked on energetic programs to raise educational standards across the nation by encouraging school attendance and seeking to reduce gross difference among regions and racial and socioeconomic groups. It was the expressed intention of the Reagan administration (1981-) however, to reduce federal funding and influence in education and to rely more upon state initiatives. The United States has been largely successful in providing 12 years of free, comprehensive schooling for its young with the opportunity of further or higher education at low cost to students with the desire and ability to continue. The general goals of the education system are: to create unity out of diversity, to foster democratic ideals and practices, to assist individual development, to ameliorate social conditions, and to improve national progress.

1. Structure of the Educational System

Each of the states provides a system of free public schools covering kindergarten plus 12 years. Though laws vary among the states, schooling is generally compulsory from the ages of 6 or 7 years to 16. There are several structural patterns in use, depending on the location: kindergarten plus elementary grades 1-8, followed by four years of high school; kindergarten plus six grades of elementary school, followed by a three-year junior-high school and three-year senior-high school (sometimes combined into a six-year high school); and a relatively new development, kindergarten plus four or five grades of elementary school, a four-year middle school, and a four-year high school. All patterns lead to high-school graduation at about 17 or 18 years of age. In addition, some states provide a two-year (community or junior) college program as part of the public school system. About 10 percent of elementary- and secondary-school students attend private institutions, the majority being religious schools of the major denominations. (About two-thirds of elementary and secondary students in the private sector are in Roman Catholic schools.)

In 1979, total primary and secondary enrollment was approximately 46.9 million, with an additional 11.5 million in colleges and universities. The earlier decline in national birth rates is reflected in a fall since the peak total enrollment in 1976 of 61.3 million students. Enrollments at the elementary-school level (kindergarten to elementary grade 8) were about 31.6 million in 1979. Private school enrollment was steady at about

3.6 million. High-school numbers began to drop in 1977. About 15.3 million were enrolled in grades 9-12 in 1979, of whom 1.5 million were in private high schools. The number of college students has grown considerably since the 1960s, enrollments having increased by about 44 percent in the 1970s. In 1979, colleges and universities enrolled the highest number of students ever (11.5 million) of whom 20 percent were in private institutions.

Currently, about 75 percent of an age group complete high school and 45 percent (or 60 percent of high-school graduates) begin college-level work. One indication of the trend to extend formal schooling is the median number of school years completed by past generations: on average, younger adults (25-29 years old) had 12.9 years of schooling; persons 45-49, 12.4 years; and the elderly (75 years and more) spent 8.7 years in school (1977 figures).

Approximately 89 percent of 5-year-olds (kindergarten age) are enrolled in school. The numbers increase to 99 percent of 6- to 13-year-olds (grades 1-8) and 94 percent of 14- to 17-year-olds (grades 9-12). Of the 18- to 24-year-old population 29 percent are enrolled in college or university. The major points of dropout in flow through the system occur at about 16 years of age, at 18 (end of high school), and at about 20 years (completion of junior or community college and certain technical programs).

The latest projections of enrollments are that the elementary-school population will continue to shrink for the next two or three years. High-school enrollments will continue the decline which began in 1977, leveling off in the middle 1980s. The college-age population is expected to decline after 1981 but trends in college enrollments will depend on those social and economic factors that in the past have exerted influence on post-compulsory education: employment opportunities, and the rise in the number of women, part-time, and older students.

Special education is provided for about four million handicapped students (8 percent of the total school-age population) ranging from the speech impaired and learning disabled to mentally retarded, physically handicapped, and emotionally disturbed. Here again, though state government is responsible for providing for the handicapped as well as the normal, support comes also from private agencies, local districts, and the federal government.

A number of factors are associated with differences at various levels of the school system: location, ethnicity, and sex. Over three-quarters of adults in the west graduated from high school compared with under two-thirds in the south. Metropolitan central city schools and rural areas tend to have higher dropout rates than other areas. In all regions, minority groups demonstrate lower rates of high-school graduation. Females have traditionally dropped out of high school at higher rates than males and accounted for a minority of students in higher education. However, efforts at equalization have met with considerable success. For

example, in 1950, the proportion of adults who had completed high school was twice as high among whites as among blacks (over 30 percent as compared with 16 percent). Figures for 1979 still show differences in average length of school experience, but indicate an overall rise with proportionately greater increase for blacks (about 62 percent of all adults had completed high school, 65 percent of whites and 45 percent of blacks). Between 1974-78, college enrollments rose at a greater rate for blacks and other minorities than for all student groups (27 percent for minorities compared with 13 percent overall). The proportion of female high-school students planning to continue in higher education is now almost equal to that of males, while women have been a majority of college students since 1979.

Nonformal education in the United States presents a bewildering array of different activities for adults, variously supported and organized. It is provided by public and private agencies, by employers and labor unions, by profit-making individuals and religious and secular philanthropic groups, as well as by schools and colleges in their extension or continuing-education programs for adults. They cover such activities as adult basic education (for literacy, and for high-school equivalence), postsecondary (noncollegiate) studies, business and consumer education, as well as a range of hobby, craft, artistic, and recreational activities. Estimates of the numbers of persons involved in such lifelong learning activities are uncertain. A federal study found that 7,500 firms with over 500 employees spent US\$2 billion on direct personnel training and development activities in 1975. The Civil Service Commission reported half a million workers involved in some kind of education at an annual cost of US\$125 million. But these figures represent only a small proportion of the numbers and kinds of nonformal education.

At the college level, a number of innovative practices have been instituted, especially during the later 1960s. Work-study, independent study, wide student choices, and individualized study are among the opportunities available. Several institutions permit selected students to pursue individualized Bachelor of Arts studies free of standard institutional requirements though supervised by faculty panels. Growth in the number of older students has led to a system whereby individuals may receive college credit for "life experience." At the secondary level, too, alternative school programs have developed. Their major characteristics include a combination of work with formal studies, student planning of individual programs, an unstructured school day, and the use of learning contracts.

school lunch programs, administers education for Indians, finances education for veterans, and underwrites college student loans. It provides funds for educational research, for foreign student exchange, and for categories of students and localities in special need. While direct subsidies to parochial schools are unconstitutional, funds are provided indirectly for a number of services including textbooks and science laboratories. Since 1979, the Federal Department of Education, headed by a secretary of cabinet rank, has been responsible for executing government policy in most educational matters. The establishment of this new Department sought to consolidate a number of educational responsibilities distributed among several federal agencies and reflected the growth over previous years of federal legislation and financial involvement in education.

The 50 states discharge their administrative responsibilities for education along broadly similar lines. Generally, a board of education of elected and/or appointed members forms policy and determines the budget. A state department of education, headed by a chief administrative officer has overall responsibility for providing education at all levels, sometimes including higher education. Curriculum, graduation requirements, teacher certification and working conditions, and school finance, are among its more important responsibilities. The chief officer, usually called the commissioner or superintendent of education, is in most instances, appointed by the board of education (or the governor) but in some places is elected.

As a rule, the practical responsibility for running the schools is in the hands of smaller units such as counties or districts. These have been greatly reduced in number in past years to coordinate services and standardize certain practices. Nevertheless, the daily administration of schools in the United States is in the hands of about 16,200 local districts, some containing no more than a single, small elementary school, others comprising large metropolitan systems with three-quarters of a million students. Local school boards are directly elected and, depending on the extent of their responsibility, operate through district superintendents supported by professional staff. Local school boards retain considerable autonomy within guidelines laid down by state authorities which as a rule specify minimum requirements for credentials of teachers, high-school graduation, school curricula and building codes, and so on.

Most states have a separate board responsible for public higher education and for the licensing of private colleges and universities. While junior colleges (two-year institutions) may be run by community and/or state boards, institutions empowered to award the bachelor's and advanced degrees are state-chartered public bodies governed by boards of trustees. Their legal responsibilities are inclusive. Higher education institutions are managed by a president appointed by the trustees, and staff responsible for financial and other administrative matters. Faculty have major responsibility for the edu-

2. Administrative and Supervisory Structure

Historically, education has been considered a state and local responsibility, but the federal government has been involved at all levels since the 1872 grant of public land to the states to establish colleges of agriculture and mechanical arts. The federal government supports

cational programs and selection of academic staff, subject to the approval of administration. Higher education institutions are usually subject to peer review by accrediting organizations comprised of colleges and universities in the region.

3. Finance

Total annual expenditure for public and private education from kindergarten to graduate school was estimated at about US\$166.2 billion for 1979–80, US\$14 billion above the figure for the previous year. US\$107 billion went for elementary and secondary schooling and US\$59.1 billion for institutions of higher learning. Public schools and colleges spent about US\$135.3 billion while nonpublic institutions spent US\$30.9 billion, nearly two-thirds of it on higher education. Expenditures on education represent a little under 7 percent of annual national wealth (GNP), slightly less than the 8 percent reached in 1975–76 after several years of increase.

Expenditures per pupil in attendance at public elementary and secondary schools have been rising steadily in recent years. The national average was US\$2,150 per pupil per year in 1979–80, having been US\$1,823 in 1977–78 and US\$616 in 1969–70. Differences among the states are substantial, with some spending little more than half the national average while others expend more than half as much again per pupil. Within states, too, per capita expenditures vary among local districts.

Public school revenues derive mainly from county and other local sources, largely in the form of real estate taxes, and from state taxes. On average, across the nation, these two sources each provide about 45 percent of the funds. In recent years, the proportion provided by the state has increased. The balance is provided by federal funds which have also increased in amount and in the proportion of support in recent years, especially in poorer regions of the nation. Federal grants totaled US\$7.3 billion in 1968 and nearly tripled in 10 years to approximately US\$20.8 billion in 1978. The largest increases in federal funding during this period were in higher education, vocational–technical schooling, and continuing education. The federal contribution to all higher education both public and private is about 13.7 percent, with the states paying about one-third of the total, and other sources (student fees, private grants, endowments, etc.) accounting for about half. State governments are the largest sources of funds for public higher education while tuition fees and charitable contributions provide the major income for private institutions.

Tuition and living costs for students in higher education have been rising sharply in recent years. The national average for tuition, room, and board at public institutions was US\$1,582 in 1974–75 (US\$3,403 at private institutions), and has risen approximately 10 percent per year. It is estimated that half of all entering

students receive some form of financial aid in the form of scholarships, partial or complete remission of fees, or long-term, low-interest loans. In addition, it is common practice for students to supplement their resources through part-time and vacation employment.

4. Education Personnel

In 1979, 2.5 million teachers were employed in public and private schools, 2.185 million in the public sector. Of these, 1.340 million were elementary classroom teachers and 1.120 million were in secondary schools. The figures are similar to the previous year, though the longer term trend shows a slight decline after a period of substantial growth. However, regional differences are marked. For the past few years, the teaching cadres of declining population centers have been reduced, while shortages have occurred in growth areas, especially in the southwest. For the nation as a whole, the number of public school teachers has not declined at the rate of student enrollments, resulting in a continuing improvement in the pupil–teacher ratio (from 22.7 students per teacher in 1969 to 19.2 in 1979).

Periodic surveys show that public school teachers are better educated nowadays than previously: only 1 percent of teachers in 1976 had not acquired a bachelor's degree compared with 15 percent fifteen years before; over 37 percent had a master's degree compared with 23 percent in 1961. As might be expected from growth in the school system at large, the proportion of both inexperienced (fewer than two years teaching experience) and older teachers (20 or more years of teaching) has declined.

The majority of all elementary and secondary teachers are female, though the proportion of males has risen considerably since the late 1950s. In 1958, about 12 percent of elementary teachers and 50 percent of secondary teachers were male (27 percent overall); in 1978, the proportions were 17 and 54 percent respectively (40 percent overall).

College and university faculty numbers are still growing though not at the rapid rate of the 1960s. Teaching staff numbered about 820,000 (full- and part-time, all levels) in 1979, up by about 1 percent over the previous year. The private sector comprised about 30 percent of the total.

The combination of growth followed by decrease in overall student enrollment and considerable population mobility within the United States has produced local and short-term gaps between supply and demand. Emergency short training courses have been created to recruit teachers in particular areas, and the criteria for appointment may be adjusted as a temporary device. On the whole, though, the supply appears generally adequate, though a shortage persists of mathematics and science teachers.

Teachers are prepared for the elementary and secondary schools in liberal arts undergraduate institutions,

the older pattern of teachers' colleges having virtually died out. Students follow a general four-year course of studies leading to a bachelor's degree, with a concentration in the academic subject they plan to teach (if preparing for secondary school) and in professional studies. Some teachers complete the undergraduate program before studying professional subjects at the graduate level. All will have some supervised student teaching experience as part of their professional preparation. Graduate and inservice studies are encouraged by salary incentives and state licensing requirements. A master's degree is required for a permanent high-school teaching license in many cases.

Teacher salaries are determined by local school districts and vary considerably. The national average salary for public school teachers was approximately US\$15,040 in 1978-79, representing a 6 percent increase over the previous year. The average salary for all professional staff (including principals, supervisors, teachers, and other personnel) is estimated to be slightly higher: US\$15,615 in 1978-79, US\$16,700 in 1979-80. Average salary for college faculty (all ranks) tends to be higher at US\$23,254 per year in 1979-80 (at state universities only).

5. Curriculum Development and Teaching Methodology

The strong tradition of local autonomy and the pluralistic nature of society both influence curriculum and teaching in the United States. There is no official national curriculum. State departments of education prescribe curriculum with varying degrees of specificity, leaving scope for local and individual variations. Subject specialists, school administrators, and teachers are all involved in the process of curriculum development. A number of additional participants are also influential, contributing to considerable uniformity across the nation's schools: professors in the subject areas and in education, public interest groups, and commercial interests (especially producers of textbooks and other instructional materials). National organizations of teachers of particular subjects or levels of schooling, as well as national testing agencies (the Educational Testing Service, a private, nonprofit agency) serve as further unifying forces.

In their earliest days, American schools were marked by powerful religious influence and a commitment to basic literacy skills. The traditional European classical curriculum served the few who continued into secondary and advanced studies, though with a growing utilitarian trend. From the mid-nineteenth century on, with secularization of schooling, general social concerns dominated: unifying a mobile, dispersed, immigrant population through the teaching of American values, practices, and language; and preparing the young for productive life in the new industrial and urban society. The Progressive movement at the end of the nineteenth century served to reform curriculum and teaching by its

concern for the diverse needs of all learners (intellectual, social, physical, and emotional) and its attention to individual needs. Gradual and uneven though they were, changes resulted in a vast broadening of the range of the school curriculum (to include new subjects, especially at the secondary level), and some increase in student opportunity for choice. More recently, the period from approximately 1955 to 1975 was marked by considerable ferment and innovation: renewed interest in an integrated curriculum, student-centered teaching methods, individualized instruction, and alternative schools. A rapid increase in the size of the school population and advances in technology gave additional impetus for innovation, especially in instructional methods: team teaching, programmed instruction (to facilitate self-paced study), language laboratories, television, and computer-aided instruction. Furthermore, especially in urbanized areas, current social concerns made their way into the curriculum in the form of new content organization or subjects: ethnic studies, consumer and environmental education, sex (and non-sexist) instruction, drug and alcohol abuse instruction. At the beginning of the 1980s, however, a growing "back to basics" trend was evident, combined with growing concerns about career education.

6. Examination, Promotions, and Certification

Policies concerning promotion from one grade or level of the system to the next depend on state or district decisions. While the practice of holding students back to repeat a grade after unsatisfactory performance is not uncommon, the desire to maintain attendance and extend it through the high-school years has in places resulted in widespread automatic promotion, that is, moving students along with those of their own age, especially at the elementary-school levels. Nationally, in 1976 about 4 percent of 8-year-olds were below modal grade (the grade in which most children of that age are enrolled) compared with 6.6 percent in 1950. The proportion below modal grade rises with age, to about 10 percent or more for the high-school grades (compared to about 25 percent in 1950). Recent years have seen a rise in concern about the results of this approach, expressed as dissatisfaction with the educational achievements of students and graduates.

In public elementary and secondary schooling, local districts generally determine and maintain standards, but in view of recent growing concern over the quality of education, especially in high schools, state involvement has been increasing. Acquisition of a high-school diploma does not always require a formal examination but rather attendance and a satisfactory record of school achievement as determined by the school or the district, subject to state requirements. High-school graduation is usually sufficient to ensure admission to state colleges though in some regions a qualifying examination may be necessary. In the absence of any national public examination system and of consistency among the

examination systems of those states which do offer them, standards vary. Two private, nonprofit organizations are influential in this matter. The College Entrance Examination Board and the Educational Testing Service administer tests that may be used across the nation to assess applicants for college, graduate, and professional schools.

Recent years have seen a move towards setting state criteria for the high-school diploma, generally in the form of minimum competency requirements. About 20 states currently assess the standards for high-school graduation, or have stated their intention of doing so, while another 10 or so implement this through local districts. Though federal activity has no formal authority in such matters, initiation of the National Assessment of Educational Progress a few years ago resulted in periodic announcement of average achievement levels in various subjects and grade levels by national samples of students. This serves to provide potentially influential performance criteria for the various assessment efforts at state and local levels.

7. Educational Research

Between 1957 and the early 1970s, federal support for educational research rose from approximately US\$1 million to US\$100 million. Federal funds account, however, for only about one-quarter of the resources, the majority coming from private foundations, universities and colleges, and state education departments. The establishment of the National Institute of Education, a network of regional research and development laboratories, and facilities for national assessment of school achievement, all testify to the considerable quantitative growth of educational research in the United States.

While basic and applied research are both evident, the latter predominates, with evaluative and decision-oriented studies. Much work has been devoted to outstanding and immediate public concerns such as the education of special groups (the socially and economically disadvantaged and the handicapped); reforming the arrangements for financing state and local school systems; and improving career and vocational school programs. The several social science disciplines and psychology are all represented in such efforts. Another sector in educational research is developing and testing instructional systems (not only books and other print materials, but also computer software). Teachers, professors, and technicians often collaborate with the support of publishers and electronic companies. Public and philanthropic agencies may support studies concerned with special or smaller groups, such as various categories of the handicapped. Evaluation of current and experimental educational programs is often included in the regular activities of state education departments and the larger urban school districts.

8. Prospects and Problems

Current changes in the relationships among federal, state, and local education authorities present a major challenge to educational systems in the United States. After decades of growing federal involvement in policy issues and financial support, state governments are being required to assume increased responsibility. Though disparities in educational provisions and standards have been somewhat reduced, differences among and within states persist, and the capacities of poorer regions to meet rising costs and demands are strained. Whereas in the past the differences were largely rural-urban, currently they are most marked between inner-city schools and other urban and suburban systems. How to regroup public resources and to improve educational opportunities and outcomes for minority children, recent immigrants, and the poor—concentrated in sections of large cities and in pockets of rural deprivation—is a major problem for the coming decade.

Apart from geographical disparities, school policies have been directed at eliminating disadvantages of specific groups: ethnic minorities (particularly blacks and Hispanics); the handicapped; and females. Despite programs of desegregation, bilingual education, mainstreaming the handicapped, and efforts to improve opportunities and success rates at all levels of the school system, the challenge to increase equity persists.

The pendulum of educational thought and practice has swung since the period of radical criticism in the 1960s. Teachers, parents, and students concern themselves increasingly with the quality of school performance and its relation to career opportunities. The alternative, informal, and individualistic school experiments have declined substantially. Current emphases are on basic educational skills and raising standards of performance at specified levels.

After the severe teacher shortage of the late 1950s and early 1960s and the growing surplus in recent years, demand for new teachers is expected to rise again gradually over the coming years. The lack of machinery to satisfy this at an appropriate level ensures short-term imbalances between supply and demand. Science and mathematics teachers continue to be in short supply in most areas.

A period of growing federal leadership in education, including considerable reliance on compensatory strategies, has been succeeded by one of retrenchment. But the relative growth of central authority in education and general economic stagnation have diminished public confidence in the ameliorative power of the school system. A series of critical reports and recommendations have recently stimulated considerable public and professional discussion, often in the light of comparisons with other nations. Proposals for reform have focused in particular upon raising standards of achievement; strengthening the curriculum, especially in mathematics, science and foreign languages; and

improving teacher preparation and performance. In the coming years, state, local, and private initiatives will be required to meet the needs of the young, of those preparing for new careers, and of new populations seeking further and higher education: regional and ethnic minorities, females, and older citizens.

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United States Trust Territory of the Pacific Islands

R. M. Thomas

The United States Trust Territory of the Pacific Islands is composed of over 2,000 islands distributed across a great expanse of the west-central Pacific Ocean. The island groups include the Marshalls, the Carolines, and the Marianas. The territory is located in the area known as Micronesia. They are occupied by 116,000 indigenous islanders whose ancestors originated in Southeast Asia.

Over the past four centuries, the islands have been under the political authority of four major powers consecutively—Spain, Germany, Japan, and the United States. Under Spain, from the late 1500s until the end of the 1800s, colonial political control was little more than nominal, since Spaniards established settlements in only a few islands, and education was limited to the development of some mission schools by Roman Catholic orders and, after the mid-1800s, by American Protestants. From 1899 until 1914, Germany controlled island affairs, with education still in missionary hands.

Under the Japanese, from 1914 to 1945, full colonial occupation was instituted. By 1940, there were over 80,000 Japanese living in the territory and only 60,000 indigenous islanders. The colonial government reduced the number of mission schools from 100 to 23 and established two systems of public schools, one offering elementary and secondary education for all Japanese children and the other providing primary education for an estimated 56 percent of indigenous children ages 8 to 14 (Clyde 1935).

At the close of the Second World War, the islands became a United Nations trust territory, administered by the United States. As a result, since 1945, education in the islands has evolved under the aegis of the United States government.

1. Background

Micronesia's great geographic expanse and cultural

diversity affect schooling in important ways. The fact that all of the islands are small and far apart has posed problems of furnishing proper schooling for children within a reasonable distance of their homes. Providing facilities has been particularly difficult at the secondary level, where a relatively large enrollment is required in a given school if varied curricular choices and vocational training equipment are to be offered.

Although nearly all islanders are of Micronesian racial origin, centuries of living widely dispersed over a large ocean area has produced significant differences between island groups in custom, language, tribal identity, and political aims. These differences were a major factor influencing the people's decision in the late 1970s to form four separate governments for their future independent political status instead of all uniting under a single federated Micronesian government as had been recommended by United States authorities.

The governments they created are (a) of the Marshall Islands, (b) of Palau, (c) of the Federated States of Micronesia (Ponape, Kosrae, Truk, and Yap), and (d) of the Northern Marianas. In the early 1980s, independence was planned as a "free association" with the United States, giving the new island governments control over domestic affairs and most foreign relations, and assigning the United States responsibility for military defense and economic aid. However, by 1986 the free-association arrangement had still not been fully ratified by the United States Congress and the United Nations.

2. Size and Structure of the Educational System

Educational progress during the four decades of United States governance in the Trust Territory can be divided into two eras. The first, from 1945 to 1962, was marked by the gradual expansion of elementary schools, which

were staffed by local inhabitants and financed by the local communities and district legislatures. The islands' few junior-high schools and single senior-high school were staffed by a combination of United States and Micronesian teachers paid by the central territorial government.

Throughout the 1945–62 era, teaching in elementary grades was in the local language. Most village schools began with only two or three primary grades, then gradually extended the length of education into the upper-elementary grades. Enrollments in public elementary schools grew from virtually nothing in 1945 to 9,303 in 1961. Enrollments in mission elementary schools also increased, reaching 4,083 by 1963.

The course of public education was altered suddenly in 1962 as a re-evaluation of the first 17 years of United States rule caused the territorial government to increase school facilities rapidly and to furnish instruction in English at all grade levels, rather than limiting English to the secondary schools.

Instead of expecting children to attend school in rude shelters or on pandanus mats in an open clearing, as had been the case in some villages in the past, the government in 1962 furnished funds to construct by 1965 a total of 522 new elementary classrooms and 246 houses for United States teachers brought to the islands to implement the new teaching-in-English plan. At the same time, authorities expanded secondary facilities by adding a 10th grade to district intermediate schools and thereafter converting them into full four-year high schools by 1965 (grades 9–12). Religious orders also increased the pace of high-school development, so that by 1965 there were seven mission secondary schools in the territory.

These efforts raised the combined public- and private-school pupil enrollment between 1963 and 1980 by 81 percent (from 17,679 to 31,996) for eight-year elementary schools and increased enrollment more than 15-fold (from 495 to 7,719) at the four-year secondary-school level (United States Government 1963, United States Department of State 1980). In 1984 the combined elementary- and secondary-school enrollment for the entire Trust Territory was 75,091. Slightly over 86 percent of the students attended public schools and 14 percent private schools sponsored by Christian church groups. Of the total enrollment, 73 percent of the students were in the Federated States of Micronesia, 14 percent in the Marshall Islands, 8 percent in the Northern Marianas, and 5 percent in the Palau (United States Department of State 1984).

Postsecondary education has been provided in two forms. One is the Community College of Micronesia, serving students from the Marshall Islands, Ponape, and the Federated States. The other is a series of extension courses for the Northern Marianas region, coordinated through higher learning institutions on Guam and in the United States. Postsecondary schooling includes a strong vocational education component.

The sudden shift of strategy for conducting education

after 1962 reflected the general change of United States policy that emerged at this time. For 17 years following the Second World War, a philosophy of letting the islanders make their own way without much interference from the United States dominated educational policy. This laissez-faire approach was replaced in 1962 by a decision to furnish universal education and prepare island youths to choose vocations either in traditional Micronesian societies or in modern Western societies. This meant developing students' communication skills in both the vernacular and English.

3. Administration

From the end of the Second World War until the early 1980s, the administrative structure grew markedly in size, in complexity, and in the sophistication of staff members. Until well into the 1970s, administrative decision making and supervision derived from a central department of education. But during the transition to independent political status for the four prospective new governments at the opening of the 1980s, administrative control has been transferred to four district headquarters.

The Trust Territory's system of education administration is not of indigenous design, but rather is a copy of school organization in the United States. For years following United States assumption of control in the islands, most administrators, particularly at the top levels of the hierarchy, were foreigners from the United States. However, gradually, local inhabitants who received advanced education in the United States or Guam and served as counterpart employees in the territorial system beside United States educators have taken over administrative posts at all levels. As a result, school administration by the early 1980s was a United States product, adjusted somewhat to the islands' geography and cultures and staffed mainly by local inhabitants.

4. Curriculum Development

In the early days of the United States presence, curriculum development consisted mainly of bringing textbooks from the United States and helping Trust Territory teachers adapt them to island conditions. But because elementary schools in the 1950s operated chiefly on their own initiative, these efforts were quite haphazard. After 1962, curriculum development became an increasingly specialized function. Local inhabitants were trained at the University of Hawaii in ways of suiting learning materials and methods to Micronesian settings, and experts from the United States were imported to guide local educators in the use of newer instructional techniques.

The structure of the curriculum at all levels of the school system is much like that in the United States, with emphasis on English language arts, mathematics, social studies, science, art, music, and physical

education. In addition, courses related to island cultures have been created, including vocational training in both traditional island occupations and those imported from the industrialized world, social studies that involve compiling written accounts of local culture, bilingual education, science units focusing on island settings, and training for the handicapped.

5. Teaching Personnel

From the earliest days of United States control, the training of educational personnel has consisted of several methods operating in parallel. Most training has been of an inservice rather than preservice variety because, over the years, the need for teachers and administrators has so outstripped the available supply that the authorities could not await the complete preservice training of personnel before assigning them to classrooms. As a result, little-trained teachers and administrators were employed, then furnished periodic upgrading to improve their effectiveness.

Inservice training has assumed several forms. One is that of the visiting consultant, an expert teacher in the role of a supervising consultant traveling from island to island to work with teachers in their own classrooms. A second popular type has been the short-term workshop or training course, lasting from two weeks to six months. A third type has been the model school, where teachers from various islands can be appointed for a period of a few weeks to gain direct experience with new methods and facilities. Another has been radio broadcasts that offer the advantage of simultaneously reaching teachers in widely separated areas. For more advanced training, teachers and administrators have been sent to universities overseas, particularly to Guam and Hawaii, for short-term and degree courses.

In 1969, the urgent need for better-qualified teachers stimulated authorities to create the Community College

of Micronesia, a two-year institution on the island of Ponape granting an Associate of Arts degree in elementary education. As a result, more effective preservice and inservice teacher training became available throughout the 1970s and into the 1980s.

By 1980, the number of teachers in the educational system totaled 1,578 for the eight-year elementary schools and 520 for the four-year secondary schools. Over 88 percent of elementary and 75 percent of secondary teachers were in the public-school system. At both elementary and secondary levels, men made up two-thirds of the teaching staff and women one-third.

6. Future Prospects

In the coming years the educational systems of the Trust Territory will probably continue to reflect the strong influence of the United States, will continue to receive aid from the United States for educational development, will be staffed increasingly at all levels by indigenous islanders who have received advanced training abroad, will expand vocational training opportunities at both secondary and postsecondary levels, and will incorporate more aspects of island culture into the curricula.

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Uruguay

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The Republic of Uruguay, the smallest country in South America, occupies an area of 186,480 square kilometers (72,000 square miles) on the east coast of the continent, bordered on the north and east by Brazil, on the west by Argentina, and on the south by the Atlantic Ocean. Nearly half of the nation's population of three million live in and around the capital city of Montevideo. The country's limited size and the fact that such a large segment of the population lives around the capital have made educational facilities readily accessible to the majority of the people and thus have enabled the country to achieve the highest literacy rate in Latin America.

Ethnically, the citizens of Uruguay are of Spanish or

Italian origin, with a portion of the population of mixed (mestizo) European-Indian stock. The society's cultural tradition, like the national language, is Spanish, so that there are no major language and cultural divisions for which educators must make adjustments in the school system. Although the prevailing religion is Roman Catholicism, religious instruction is not included as part of the regular curriculum of the public schools.

While Uruguay is perhaps the most urbanized nation in South America, its economy has not depended on industrial development but, rather, on cattle and sheep raising and, to a lesser degree, on wheat, corn, and linseed. The chief industry is meat packing and processing, with the production of hydroelectric power recently

beginning to contribute as an export item. Despite the nation's traditional dependence on livestock and farming, efforts are being made to increase industrial production, with the demands for industrial manpower stimulating educational planners to generate new programs for supplying greater numbers of skilled workers.

Politically, Uruguay has been an independent republic for more than a century and a half since winning freedom from Spanish colonial control. In recent times, the country has maintained two traditional political groups, the Colorados Party, which supports the middle and lower classes, and the Blanco Party, which supports the large landowners, the church hierarchy, and big business.

The society's socioeconomic class system bears important implications for attitudes toward schooling. Despite the availability of universal, free education, different educational aspirations are found among the various social classes, with the upper strata favoring academic studies and more advanced schooling and the lower strata more inclined to vocational courses and fewer years of schooling. However, increasingly, schools emphasizing academic curricula are viewed by the lower classes as a route to middle-class status, with the result that the desirability of technical and vocational education is declining. As a consequence, secondary-school vocational programs draw fewer candidates from the pool of more talented primary-school graduates. By the latter 1970s, nearly 75 percent (260) of the nation's 347 secondary schools offered a general academic education and 25 percent (87) offered technical curricula (Europa 1981 p. 1710).

Uruguay has a high rate of literacy and wide distribution of newspapers and other mass communication media, so that the populace is generally well-informed.

1. Structure of the Educational System

1.1 Primary Education

The nation's compulsory-education policy requires that all children between ages 6 and 14 attend school, with parents facing the prospect of being fined by the government if their child misses more than 3 days of school in a month without a legitimate excuse. This regulation, while fully enforced in urban regions, is enforced only through age 10 in rural areas where children may be needed in agricultural activities and fewer schools may be available. Kindergartens are attended by children between ages 3 and 6, with the emphasis of the curriculum on character training and physical and psychological development.

At age 6, when compulsory primary education begins, a child may attend one of two types of primary school. The first of these, known as the complete primary school, offers a six-year program which may be followed by the child's immediately enrolling in a secondary school. The complete schools are found mostly in urban areas. Incomplete schools, more common in rural

settings, offer less than six-year curricula. Upon finishing an incomplete school, a child may either enroll in an agricultural training school or else transfer to a complete school to finish the six-year program that leads to academic studies at the secondary level.

According to government reports, the 1970s witnessed an 8 percent decline in primary-school enrollment (from 354,096 in 1970 to 326,235 in 1979), a decrease apparently caused by the society's control of the population growth rate, with the majority of the people favoring a small nuclear family that parents can support adequately. During this same 10-year period, the teaching corps increased by 1,500 teachers, thereby reducing the pupil-teacher ratio from 29:1 to 24:1.

1.2 Secondary and Higher Education

Many of the general-secondary schools, called *liceos*, offer a six-year program, with the first four years consisting of a basic cycle of general academic studies and the last two a university preparatory cycle. Students may elect to complete only the first four years and then enter the labor force. Those who complete the six-year program earn the *bachillerato* certificate.

Parallel to the academic schools is a set of technical-vocational secondary institutions of two main varieties—regular technical-vocational schools and pilot schools. The pilot schools follow a five-year curriculum, with the fifth year dedicated to specialized training in a vocational skill. Students graduating from a pilot school are eligible to enter the university preparatory cycle of an academic-secondary school.

As already noted, technical and vocational training is not very popular in Uruguay, since the manual occupations to which it leads are not accorded desired social status. By the latter 1970s, over 73 percent (138,000) of secondary-school students followed academic studies and the remainder (50,000) vocational courses (Europa 1981 p. 1712). Although skilled and semiskilled workers often are paid substantially more than office workers, the social desirability of a white-collar occupation tends to outweigh the monetary advantage of blue-collar labor in the eyes of candidates for secondary schooling. As a consequence, those primary-school graduates who enter vocational secondary schools are frequently pupils who could not gain entrance to general-secondary schools.

Entrance to the nation's one higher education institution, the University of the Republic, is available to secondary-school graduates who have earned a *bachillerato* certificate, with no entrance examination required for admission. Although no tuition fee is charged, students are required to pay for books and other supplies. Subsistence scholarships are available for capable needy students. The most popular field of study in the university has been law.

1.3 Adult Education

In contrast to many Latin American nations, Uruguay's widely distributed adult education system does not emphasize literacy training, because the society's com-

pulsory primary-education program has already enabled Uruguay to achieve the highest literacy rate in Latin America. Consequently, the well-attended adult programs are able to focus on cultural enrichment, training for voluntary social work, and employment skills.

2. Administration and Finance

Education throughout Uruguay is the responsibility of the central government, with the National Council of Primary and Normal Instruction in charge of preprimary and primary schooling and of the institutes that train people to teach at the preprimary and primary levels. The National Council on Secondary Education is responsible for general- or academic-secondary schools and for institutes preparing people to teach at the secondary level.

All public-education costs, with the exception of textbooks, are financed out of the general national budget. Approximately one-fifth of the annual budget is allocated to schools, so that education represents the largest single item among the central government's expenditures.

Financial resources are distributed to public schools in accordance with student enrollment figures, with special funds provided to schools in socio-economically disadvantaged areas.

Private schools, which are predominately church sponsored or supported by particular ethnic groups in Montevideo, are financed by private endowments, tuition fees, and gifts. Some private schools furnish free education for needy students and, in return, the schools are exempt from national and municipal taxes.

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Vanuatu

R. Beevers

Upon achieving independence and changing its name from New Hebrides in 1980, the new Pacific island nation of Vanuatu inherited from its former colonial rulers two of everything governmental—two sets of laws, two sets of hospitals, two sets of police, two sets of schools, two sets of colonial attitudes, and two official languages. Such an inheritance was the result of nearly 100 years of life in the islands under a colonial condominium, meaning the joint administration of the territory by the United Kingdom and the French governments.

Observers have charged that while the condominium ostensibly was operated for the benefit of the indigenous population, in actuality each of the two colonial powers sought to win petty victories for its administration over the rival one. This competition between the colonial rulers affected the structure of education in ways that exert a strong influence over the nature of schooling in the islands today. To remedy the divisiveness that such rivalry caused, officials of the new Ministry of Education have set as their chief goal the unification of the disparate elements of the educational enterprise that have evolved over the past century.

1. Diversity in Society and Educational System

The sources of the plural nature of Vanuatu's society and educational system lie not only in the condominium form of colonial administration but also in the territory's geographic and demographic characteristics.

Geographically, Vanuatu consists of a chain of about 80 islands spread across an area of the western Pacific measuring 900 by 500 kilometres and located west of Fiji, southwest of the Solomon Islands, and northeast of New Caledonia. The 10 largest islands account for almost 90 percent of the total land area of 11,900 square kilometres. Because the islands are mountainous, only about half of the land area is potentially suitable for agriculture, and only one-sixth of this arable acreage is currently under cultivation.

Such geographic characteristics pose problems for educational planners in terms of providing equal access to schooling for all pupils and of locating schools in the most suitable sites. Supplying teachers and schools to remote, sparsely populated regions and communicating with such regions is particularly difficult.

By 1979, the population of the nation exceeded 112,000 and was growing at about 2.5 percent annually, a trend in contrast to the population decline of the later 1800s and early 1900s when epidemics and labour recruitment reduced the numbers living in the islands.

In terms of ethnic composition, Vanuatu is 95 percent Melanesian and 5 percent a mixture of other Pacific islanders, Chinese, Vietnamese, French, Australians, and English. The indigenous inhabitants, distributed throughout the islands, speak well over 100 Melanesian languages, none of which is used for general communication in the nation. Instead, for purposes of general communication and education, the three languages in popular use are English, French, and Pidjin (some-

times called Bislama). The first two were the official languages for the two former colonial powers, used for the administrative and legal systems, for trade in businesses run by each power's expatriate residents, and for education in the two systems of schooling set up by the English and French. Pidjin is the form of pidgin English used extensively throughout the country, permitting the people to coexist within, and to achieve some reconciliation of, the separate philosophies of the two colonial rulers.

In view of such a multiplicity of ethnic backgrounds and of languages in the population, the task of Vanuatu educators in providing a culturally unifying curriculum and a common instructional language for a newly unified school system is formidable indeed. The educational complexities created by such cultural diversity and a condominium form of governance can be suggested in a review of the chief components of the school systems and their backgrounds.

2. Systems of Schooling

As in other Pacific island areas, schools were introduced to Vanuatu in the nineteenth century by missionaries. As a consequence, from the viewpoints of colonial governments, education for the indigenous peoples was cheap. Governments did not need to allocate resources to mission education as might have been necessary had those governments paid fully for schools themselves. Hence, education was a mission-based activity for most people before the 1950s. It was the missionaries who were responsible for the high rates of literacy, so that people could read their Bibles, and it was missionaries who were responsible also for the spread of such democratic concepts as conducting group meetings, one person speaking at a time, and voting.

The missionaries also contributed to divisiveness in the islands by producing a split between Roman Catholics and Protestants as a parallel to the French-English colonial division. Children in Roman Catholic areas went to schools where the language was French and the curriculum French. Children in Protestant areas went to schools where the language was English and the curriculum was an English attempt to adapt education to the needs of the islanders.

The French saw their schools as producing replicas of Frenchmen—people who, though of different colour and habitat, nevertheless spoke French, thought like the French, and developed a French way of life. The English had goals for education which followed the general pattern of goals in their colonies. They set out to produce an elite to handle government and a wide base of literacy. The religious denominations followed these two patterns. Catholic missions were French, offering the French way of religious life in their schools. The Protestant systems, in keeping with the English philosophy, offered a foundation of literacy which served the ideal of a Bible-reading, religious village society, while maintaining a single secondary school in

each mission to supply senior mission, government, and business personnel.

In devising the two school systems, the colonialists appeared to give no thought to what the indigenous population might wish their education to be. The traditional family education for subsistence agriculture and fishing and for transmitting village culture continued, with neither colonial power seeking to interfere with this mode of education.

However, the existence of the two imported colonial systems posed a serious dilemma for islanders who wished to participate in the colonialists' educational programmes. Should one permit one's children to attend French schools, which were free and well-equipped, and where there was a chance to enter the higher echelons of government service, but also with a sure alienation from Vanuatuan culture? Or should one permit one's children to go to the English schools, which charged fees, were poorly provided, had few places in higher education, but which did not alienate its children from Vanuatuan culture? To a great extent this decision was already made for the inhabitants as a result of the location of their homes. Children attended the school—French or British—that was nearby, and because the French system was small, most children inevitably attended the more widely distributed English schools.

With the coming of independence, Vanuatu government officials were determined to unify both school systems so as to produce one national system. The plan for unification faced several complications. One was the existence of an Anglican mission school system that received government grants but was largely autonomous in administration. Also in the Protestant sector was a Seventh Day Adventist mission system that made up about 15 percent of the British schools but received no grants. The Catholic schools were in the French system. British schools took children from the age of 6, and any preschools were wholly fee supported and entirely outside the government administration. The French system accepted children at the age of 3, free of cost to the parents.

In secondary education, a well-equipped French complex in the city of Port Vila included a secondary school, technical college, and teachers' college. The British secondary school, Malapoa College in Port Vila, was

Table 1
School enrolments 1976, 1980

School level	Teachers		Pupils	
	1976	1980	1976	1980
Kindergarten	41	49	1,076	1,187
Primary	595	986	20,639	23,264
Secondary				
General	96	140	1,480	1,970
Teacher training	12		137	106
Other	17		171	

moderately well-equipped. The other English-speaking mission secondary schools were small and widely scattered.

As shown in Table 1, during the closing years of colonial rule and into the beginning of the period of independence, school enrolments at all levels, except in teacher training, were growing. The most dramatic increase was in the general-secondary school which grew by 33 percent over the five-year period. By 1980, the general-secondary enrolment consisted of 56 percent males and 44 percent females.

3. Administrative Revision

Following independence, planning and administering the schools were located more firmly in the Ministry of Education, where the leaders established a series of administrative goals to be achieved. These included plans to combine schools where two existed side by side, to maintain for purposes of political peace the three languages (English, French, Pidjin), to establish a national secondary system, to set up a curriculum unit, and to decentralize administration by assigning more authority to district education officers and headteachers in schools.

4. Curriculum Development

Under the colonial condominium the curriculum of the British mission primary schools was mainly reading, writing, and arithmetic, and the teaching methods stressed rote memorization. The British secondary curriculum was academic in content. The French curriculum was the same as that in France. Detailed lesson notes in the French schools were provided to teachers by education authorities. The British also produced notes for teachers but not on such a lavish scale.

The chief curriculum problems during the current unification efforts are how to solve the language problem, how to maintain the output of lesson notes or else break down teachers' dependence on notes, and how to make the curriculum relevant to the needs of the nation.

In the first part of the twentieth century—until 1930 approximately—Venezuela was characterized by a predominantly rural society, with an underdeveloped economy depending mainly on the export of some agricultural products, and politically, by the tight control of a prolonged dictatorship following a previously

5. Personnel

The staff in primary schools which the Ministry inherited at independence included nearly 400 Vanuatu-trained teachers from the former British state-supported system, an even larger number of Vanuatu teachers in mission schools, 240 trained teachers in the former French system, and almost 300 untrained staff in both the government and mission schools.

Unifying the preparation of teachers is particularly difficult, since various modes of teacher training operated under the colonial powers. Furthermore, there is a universal and still unfulfilled need for inservice training courses for all levels of staff.

6. Future Prospects

The key problems to be solved in the coming decades have already been suggested—unification of the separate colonial systems of schooling, settling the problem of what language (or languages) to use as the medium of instruction, unifying the teacher-education system, making the curriculum relevant to the needs of the islanders, and preparing teachers to employ more efficient instructional methods. Accomplishing these tasks will require more adequate funding of education than existed under the colonial regime, and providing such funding will not be easy in view of the islanders' economic condition with independence. A further challenge will be to provide equal access to education, particularly in providing for pupils in remote areas and in enrolling more girls in schools. Teachers have appealed for better equipment, particularly for suitable reading materials for students.

These assignments, then, represent the steps Vanuatu educators are expected to assume as they seek to achieve a successful transition from a colonial condition to one of autonomy and cultural relevance.

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Venezuela

M. Casas Armengol

disorderly situation of frequent uprisings led by different local *caudillos*. The discovery and ever-increasing exploitation of oil triggered off, almost overnight, enormous, continuing, and unexpected changes in the social, economic, political, and cultural sectors of the country. The powerful impact that oil revenues have in Ven-

ezuela today contrasts with the importance that human resources had in the last century, when the ideas and actions of brilliant politicians, intellectuals, and soldiers (Bello, Rodríguez, Miranda, Bolívar, Sucre, and many others) radically changed the colonial conditions of Venezuela and other South American countries, notwithstanding their extreme poverty and underdevelopment.

By latitude, Venezuela is a tropical country, situated in the northern part of Latin America. It covers an area of 911,812 square kilometers (352,051 square miles) and is the seventh largest country in Latin America. It has a favorable geographical location relative to other highly populated and developed countries of the world, and it has 2,816 kilometers (1,750 miles) of coastline on the Caribbean Sea and Atlantic Ocean. It borders Colombia in the west, Brazil in the south, and Guyana in the east. The country offers great geographical diversity, characterized mainly by four zones: the Andes, the lowlands of the coast, the plains, and the highlands of Guyana. The climatic conditions of these zones also vary with the predominantly high temperatures characteristic of tropical areas and low temperatures only at high altitudes above sea level.

Venezuela's population took more than 65 years to double between 1876 and 1936, but then, in 20 years (1941–61), it doubled again, emphasizing a tendency that will continue in the future because of the sustained population growth rate (estimated at 3.4 percent in 1982), which is one of the highest of Latin America (2.2 percent in 1980). The total population grew from 5,034,838 in 1950 to 16,988,200 in 1981 (Venezuela 1982). This substantial and continuous increase can be explained only by the combination of such factors as migration from Europe and countries neighboring Venezuela and a decrease in the mortality rate and increase in the birth rate as a result of successful public health programs, which have contributed to the augmentation of life expectancy from 43.2 years in 1940 to 66 years in 1981. The country had a young population in 1981, some 42 percent being under 15 years of age; the equivalent figures in the same year for France and the United States were 23 percent and 22 percent respectively (Population Reference Bureau 1981).

This increase in population and the preponderance of young people has implications of an economic, social, educational, and cultural kind. Among them are the great load that must be carried by the relatively small productive group of people; the problem of providing additional educational services for young people and immigrants; the difficulties in providing employment for young people who enter the labor market for the first time; the need to produce more goods and services for this population; and, finally, the cultural and ideological consequences of this striking change in the structure of the population.

The uneven geographical distribution of the population is shown by a concentration of 63.4 percent of the country's total in the northwestern region, which

comprises only 14.2 percent of the entire national area. More recently, the iron and aluminium industrial complex of the Guayana region has attracted a substantial population. The proportion of urban–rural population has changed dramatically within a few years: in 1936, some 34.7 percent of the total population lived in urban areas and by 1980 this had jumped to 77.7 percent (World Bank 1981).

The oil and mining industries account for 96.9 percent of all Venezuelan exports; this indicates that the Venezuelan economy depends almost entirely on the export of two products, of which oil represents 95 percent and iron 5 percent. If other productive sources are not soon developed, Venezuela faces an uncertain future. The oil industry is very important but, owing to its high productivity and advanced technology, it employs less than 2 percent of the active population.

The national occupational structure underwent significant changes in the period 1950–80: the proportion of the active population engaged in agriculture fell from 44.1 percent in 1950 to 16.1 percent in 1978; that in industry increased from 10.8 percent in 1950 to 16.7 percent in 1978; that in commerce grew from 9.3 percent in 1950 to 19.6 percent in 1978; and the proportion in services increased from 13.4 percent in 1950 to 28.2 percent in 1978. The Venezuelan per capita income of US\$2,457.5 in 1980 was one of the highest in Latin America, but this figure gives a distorted view of the real standard of living in the country; in fact, income is quite unevenly distributed among the various social groups and this disparity is also evident between urban and rural populations. The several, successive five-year national plans, initiated in 1958, have all given priority to the opening of new educational opportunities and provided substantial financial aid (US\$2,374 million in 1979). Such a policy has produced an enormous quantitative growth and also a huge and inefficient bureaucratic structure, but in general the quality and direction of the educational effort have not achieved the desired outcomes. Some intellectuals feel that courses are studied and degrees obtained only insofar as they serve to achieve social aspirations, with little regard for individual development or the intrinsic value of the knowledge gained.

The creation of a modern state requires an efficient government apparatus. However, public administration in Venezuela has no tradition of public service or career administration; those holding public office change with governments and in consequence they lack the time to acquire appropriate expertise, commitment, and experience. The obvious consequences of this situation are inefficiency and waste, reflected especially in the national educational structure.

1. Structure and Size of the Education Effort

In Venezuela, state-funded, free, and compulsory mass education at the primary level had its origin in a decree issued by President Guzmán Blanco in 1870 (Centro

years of study	level	average age
1	university level: postgraduate	24
2		23
3		22
4	Bachelor's level: university, polytechnic, pedagogic	21
5		20
6		19
7		18
8	short cycle tertiary level: university colleges, technological university institutions	17
9		16
10		15
11	Senior high school: diversified and vocational	14
12		13
13		12
14		11
15		10
16		9
17		8
18	Basic school education	7
19		6
20		5
21		4
22		3
23	Preschool: kindergarten	2
24		1
25		

Figure 1
Structure of the educational system after the new education law (1980)

de Reflexión y Planificación Educativa 1981b). The implementation of such an ambitious measure was only achieved many years later when democratic government replaced dictatorship in 1958. At least six years of primary school were obligatory until 1980, when the Organic Law of Education was passed. This provides, among other things, for compulsory preschool and nine years of basic education (see Fig. 1); preschool education has taken the longer to implement and is being introduced gradually (344,287 preschool-age children registered in 1979-80).

Under the former law, the secondary-education diploma was awarded after five years of successful study. According to the new law, the high school (diversified and vocational education) will concentrate on the two last years of the former five years of study. The successful student obtains the secondary-education diploma or the middle-level technicians' certificate, which are both valid for the pursuit of studies at a higher level. On the other hand, higher education, especially at the university level, consists mainly of five-year programs, at the end of which students receive a university degree. Only since 1970 have short-cycle tertiary studies, that is to say two- or three-year programs, been provided by certain higher education institutions, called university colleges (*colegios universitarios*) and technological university institutes (*institutos universitarios de tecnología*) but without the status of a full university. The studies

offered in these situations lead to a degree, but for the time being these degrees do not grant exemption from programs in universities.

Higher education comprises universities (variously called autonomous, private, and experimental), teachers' colleges, and polytechnics, besides the institutions mentioned above. Recently, there has been an explosion in the number of higher education institutions, a growth not always justified. In 1957 there were only three national universities, two private universities, and a teachers' college; in 1982, there were 68 institutions, classified as follows: 16 national and 5 private universities, 5 teachers' colleges, 4 polytechnics, 13 national and 13 private technological university institutes, and 7 state and 5 private university colleges.

Total enrollment in higher education for the 1979-80 academic year amounted to 298,884 students, with an enrollment ratio of 21.7 (Oficina de Planificación de Sector Universitario 1980). Postgraduate programs have been few in number but are increasing (1,033 students in 1979). Greater importance is placed on specialization and master's degrees in the health sciences, social sciences, economics, engineering, and technology, with a total of 37 programs in 1979; however, it should be noted that some universities offering postgraduate programs do not have the well-developed research that is essential for high-quality programs.

The administrative structure of education in Venezuela has been influenced since the last century by the French Napoleonic model of education and this influence is still pervasive today even within the structures of the large national autonomous universities. The Ministry of Education is concerned with directing and controlling from its location in the capital (Caracas) preschools, primary schools, high schools, and the part of higher education comprising teachers' colleges, polytechnics, university colleges, and technological university institutes; it also has the legal right to monitor and ensure quality in private educational institutions.

The Venezuelan state is, in its educational capacity: (a) a teaching agency, capable of providing a national system of education for the majority of citizens; (b) interventionist, because it controls and monitors overall policies, even study plans and programs; (c) bureaucratic, because the Ministry of Education's administrative sector systematically devises and controls all educational developments; and (d) centralist, because every aspect of education depends on central government views (Furter 1978 pp. 23-24).

In contrast, other important sectors registered with the Ministry of Education, such as the universities, the National Institute of Sports (IND), the Institute of Culture (INCIBA), and the National Institute of Educational Cooperation (INCE), enjoy a high level of autonomy in their operations and control (Burroughs 1974).

Owing to the structural complexity of the Ministry of Education, attempts have been made since the early 1970s to decentralize it by establishing regional subunits:

however, this would imply delegating authority and making sure the information systems run efficiently at the regional and national levels. In the absence of these two conditions, decisions of all sorts have continued to be taken by central authorities, and therefore decentralization turns out to be only an additional barrier for administrative procedures (Schiefelbein 1981).

Tremendous strides have been made by governments since 1958 in eradicating illiteracy and in expanding primary education to provide for needs, but, in spite of this, functional illiteracy (1,373,561 people were illiterate in 1971, UNESCO 1981) is still a problem that demands serious attention, being deeply rooted in rural and socially deprived urban areas. The situation is similar in compulsory six-year primary education: initial enrollment statistics look better than the modest number who complete the course, for "out of each ten pupils beginning primary education, only three manage to finish sixth grade" (Uslar Pietri 1981 p. 23).

The problem of high dropout rates is crucial and affects all levels of the Venezuelan educational system, especially higher education; optimistic estimates reveal that of every 100 students who start studying at this level only 15 graduate. And, again, of those beginning high school, only 38 percent finish successfully (Venezuela, Ministerio de Educación 1981).

Figure 2 shows the evolution of primary enrollment from 1952 (557,692 pupils) to 1980 (2,456,815 pupils). The rise in high-school enrollment (see Fig. 3) is even more impressive than at the primary level due to the smaller base and to the introduction of new and different forms of secondary education (free secondary diploma, night courses, parasystem—a kind of secondary education at a distance—and so on). These opportunities, and the popular notion that education is a door to success, stimulate older students who had abandoned their studies to re-enter education. Statistics for the different educational levels show a trend towards the equalizing of percentages for male and female students, even though there is a predominance of male students in some areas (e.g., engineering) and females in others (e.g., education).

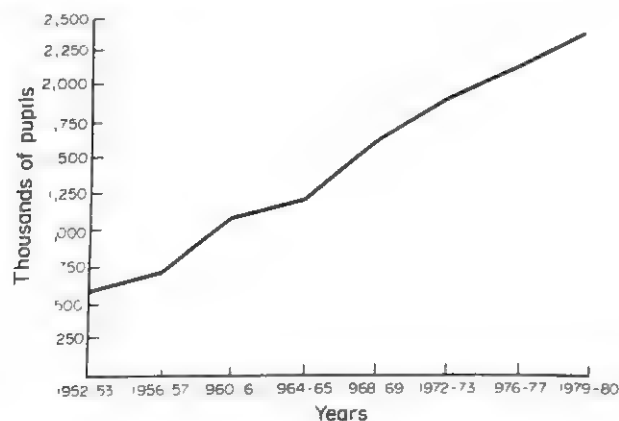


Figure 2
Primary-school enrollment 1952-80

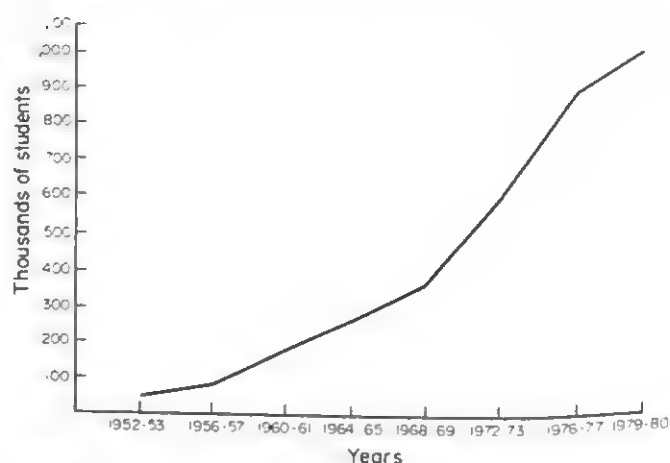


Figure 3
Secondary-school enrollment 1953-80

In the area of nonformal adult education two important programs are worth mentioning: the National Institute of Educational Cooperation (INCE) and the National Open University (UNA). The National Institute of Educational Cooperation, founded in 1959, has been quantitatively and qualitatively successful in all types of vocational training, particularly in inservice training, through intensive courses dealing with industrial, commercial, services, and rural programs. A special program was launched in 1964 for unemployed youth. By the year 1970, some 563,507 people had obtained certificates in different specialized fields. In higher education, the National Open University, founded in 1977, offers people in employment five-year university programs by distance teaching. Students study and work concurrently. Each year, more than 10,000 students enroll with the National Open University which has study programs in engineering, mathematics, administration, and education. The number of enrollments alone could justify its existence. However, it should be noted that dropout rates are very high, especially in the first semesters.

2. Finance

Since 1958, governments have given considerable attention to financing the educational system at all levels. Budgets have sharply increased: for 1957, the total budget for education was US\$41,474,000 which was 8.1 percent of the total national budget; in 1964, the percentage rose to 10.6; and in 1980 the total sum was US\$2,406,000,000, or 14.2 percent of the total national budget (Oficina de Planificación del Sector Universitario 1980).

At the same time, higher education steadily absorbed a greater portion of the total budget for education: 25.5 percent in 1964 and 45.1 percent in 1980. This was the result of the creation of many new higher education institutions and the generally low cost effectiveness.

Cost per student indicates another of the imbalances observed among the different educational levels. In

primary education, cost per student was US\$317; in secondary education, it amounted to US\$596; and in higher education, it reached US\$2,441 (1978 figures). In terms of percentages of the gross national product, total educational expenditure amounted to 4.8 percent in 1970 and 5.1 percent in 1978 (UNESCO 1981).

There is no reliable information available about the amount of private resources for education. Yet these contributions are important if one takes into account that nonofficial education comprises 13 percent of total enrollment in primary education, 23 percent in secondary education, and 8 percent in higher education. Private establishments include non-profit-making religious and other profit-making institutions. Most of these obtain funds from registration fees, special bonuses, private donations, and, in some exceptional cases, government grants.

Students receive financial aid through scholarships sponsored by different ministries, regional- and municipal-government authorities, and public and private foundations. Since 1974, there has been an effective body called the Venezuelan Scholarship Program (*Fundación Gran Mariscal de Ayacucho*, FUNDAY-ACUCHO) to coordinate scholarships given by the government in order to promote and monitor studies in priority scientific and technical areas, national universities, and higher education institutions abroad. Up until 1980, some 20,000 scholarships had been awarded, corresponding to a total investment of US\$465 million (Ruiz Calderon 1979). The system of educational credit is in the hands of an efficient enterprise *Creditos educacionales* (EDUCREDITO) but this type of financial aid is still not used to any great extent.

3. Supply of Personnel

In 1958, Venezuelan education began to expand extensively as a result of rapid social changes and accelerated development of the oil industry. Since no new well-defined educational policies were devised to accompany this process, the educational system had to be built upon traditional values, models, and structures. This phenomenon had a definite impact on the training of teachers and professors who were charged with the difficult task of transforming the national educational system so that it would become a truly effective agent of change from a rural society characterized by rudimentary technical levels to a modern developed society characterized by advanced and productive technological and scientific practices.

There are three types of teacher in Venezuela, with marked social and professional differences: the teacher in preschool and primary education, the high-school teacher, and the teacher, lecturer, or professor at the tertiary-education level. Since 1958, the commitment of university teachers to teaching and research has become much more professional. In 1978, there were 9,158 teachers in preschools, 82,226 in primary schools, 47,496

in secondary schools, and 23,451 in higher education (Fernández Heres 1981).

Until the mid-1970s, most primary-school teachers were products of normal schools. Here, students who had finished sixth grade in primary education were offered studies equivalent to four years of high school. This meant that school teachers decided on joining the teaching profession at an average age of 12 or 13 and finished professional training at about 16 or 17. This situation was then slightly modified and a new five-year program designed as part of diversified secondary studies. The certificate obtained is thus valid for proceeding to university studies.

As a result of the system of teacher training, the moulding of a pupil's personality and early school experience is in the hands of young teachers many of whom enter teaching without being sure that it is their true vocation. These teachers have been trained in normal schools of limited prestige and have little or no opportunity of going on to higher education. The social and professional status of a primary teacher is not high and intellectually endowed students who would make good primary teachers usually opt for other fields.

For the improvement of professional training of non-graduate teachers, especially those whose schooling is limited to primary education, an institute for the inservice training of teachers has been created. It offers specialized courses to nongraduates as well as to graduate teachers.

The number of teachers graduating from the normal schools was at one time excessively high in terms of the needs of the educational system and accounts for the large percentage of unemployed people in this area and the subsequent striking decline in schools of this type.

The situation in secondary education is somewhat different because these teachers come from pedagogical institutes (which originated in Chile and had a great initial influence) or from university faculties where education studies are pursued. But high-school teachers are insufficient in number for the rising needs of secondary education. In this area, more than 50 percent do not have a degree; however, the situation is even more difficult in technical high schools where the shortage is greater. Because university students of education consider primary and secondary education unattractive and poorly paid there is little interest in jobs offered in this area. Therefore, many have become teachers at the university institutes and colleges. Similarly, primary teachers with a higher education certificate also move away from teaching.

Thus, there is a progressive impoverishment of teaching staff in preschool, primary, and secondary education because teachers leave these levels and move into universities or colleges, where they tend to work in areas for which they are not skilled. There are also teachers who through inservice training or higher education studies obtain qualifications enabling them to leave primary education and go into secondary education.

This situation will, it is hoped, be modified in the

future by the Organic Law of Education (1980) which establishes that primary-school teaching must be university certified. Thus, primary-school teachers, in due course, will have to obtain a degree in higher education.

University teachers come from different professional areas and, in most cases, lack pedagogical training. In order to remedy this situation, crash courses in teaching methods have been devised and are usually compulsory for people who are just beginning to teach. In other higher education institutions, such as university colleges and technological university institutes, teachers are generally graduates of the pedagogical institutes or faculties of education.

4. Examinations

Examinations and decisions on student promotion depend on the local school authorities and teachers, even though study plans and programs are centralized in the Ministry of Education. The examination system has been rigidly focused on the student's ability to memorize the essential content matter. This trend will be substantially modified in the future if the Organic Law of Education is applied fully as intended. This law views assessments as a continuous, integral process, coordinated and focused on the achievement of such educational objectives as personality development and qualitative skills.

5. Educational Research

From 1960 to 1980, educational research in Venezuela underwent remarkable developments in quantity and sometimes in quality. However, there has been a lack of clear and well-defined policies for stimulating and guiding research. In 1981, there were 26 national centers where research was conducted (Morles 1981). The most prominent were the Center of Developmental Studies (CENDES) at the Central University of Venezuela, the Planning Department of the Ministry of Education, and the different institutes attached to several university faculties, for example, at the Central, Zulia, Simón Bolívar, and Andes Universities and the National Open University. Since 1981, the Center of Educational Planning (CERPES) in Caracas has started several projects of importance. Between 1980 and 1982, several workshops, seminars, and day-long sessions at the national level have taken place to analyze, promote, and coordinate scattered projects.

The degree of practicability and range of the projects undertaken are very various because, in many cases, these projects are individual and isolated pieces of research which respond to the occasional needs of the sponsoring institutions. Until now (1982) there has been little dissemination of the results obtained and governmental agencies in the near future will try to establish clearinghouse networks for information and research.

The National Council of Scientific and Technological Investigation (CONICIT) has promoted, through financial contributions, important studies in different institutions. Over a period of 10 years, only five main studies were completed of which the most significant were "The Influence of Parents' Socioeconomic Conditions on Student Achievement in the First Year at University" (Universidad Simón Bolívar 1975); "Occupational Structures and the Training of Venezuelan Workers" (Center of Development Studies 1975); and "The Educational System and the Development Process" (Center of Development Studies 1979). A positive aspect of increasing scientific productiveness has been the establishment in the universities of courses in research methodology and the fact that students and graduates are expected to produce theses and research papers.

6. Major Problems

The principal problems for the educational system in the 1980s and 1990s are both quantitative and qualitative in nature. From the viewpoint of quantity, the expansion has been considerable because enrollment has trebled from 1960 to 1980 and the educational system has had to create more than three million new school places. At first sight, this is a positive measure and suggests a big step forwards toward making education available to all. Nevertheless, this great expansion has produced a disconnected and unproductive bureaucratic machine. The amount of resources it consumes bears no relation to qualitative and quantitative output.

More often than not, students regard the diploma itself as more valuable than the knowledge to be gained and have little perception of the importance of acquiring values that would help meet the future needs of a rapidly developing country in a postoil age. It is difficult for the present system to introduce new policies and accept educational innovations; it is desirable that both students and teachers be more concerned for the realities facing the nation and for the development of a critical faculty and a capacity for independent learning and creative response.

Great efforts are being made to overcome these difficulties. One of them is the Organic Law of Education (1980) which formulates changes in basic education, in the training of teachers at primary and secondary levels, in examination systems, and in other matters. Another is the Sixth National Plan (1981-85) whose main objectives are: (a) to improve the quantity of education and related fields; (b) to strengthen the idea that education is job related; (c) to extend educational services; (d) to create the right atmosphere for stimulating the teacher and to acknowledge the professional work he or she does; and (e) to modernize the administration of education.

Also, the Organic Law of Education projects a new law of higher education. This has yet to be drafted and

approved by Congress but could bring about substantial changes.

The challenge for the immediate future could be summarized as follows. The Venezuelan educational system must develop a capacity to modernize and redirect itself instead of serving mainly to satisfy the aspirations of certain social elements. This is a change of great magnitude, entailing important adjustments in educational philosophy and policy, in the training and updating of teaching staff, in curricular content and instructional strategies, and in educational research programs.

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Vietnam

Lê Thành Khôi

The Socialist Republic of Vietnam covers an area of 329,556 square kilometers (127,240 square miles) and had a population of 52.3 million inhabitants in 1980, growing at a rate of 2.3 percent. Some 77 percent of the population live in rural areas. The French conquered the country from 1863 to 1867 in the south and from 1882 to 1883 in the center and the north. Vietnam declared its independence on September 2, 1945, Ho Chi Minh becoming president of the new Democratic Republic of Vietnam. It took two wars, the first against the French, the second against the Americans, and a period of division between north and south (1954-75)

before a unified Socialist Republic of Vietnam was inaugurated in June, 1976 with its capital at Hanoi.

According to the pronouncements by the Communist Party of Vietnam, the revolution has three dimensions: revolution of the relationships of production, ideological and cultural revolution, and scientific and technical revolution.

1. Educational Background

Before the revolution the Communist Party had proposed building a "national, scientific and popular

culture." In 1938, it inspired the creation of an Association for the Propagation of Quoc Ngu, the national language in its roman transliteration. After the August revolution of 1945, one of the first acts of the new government was to declare a triple war against famine, ignorance, and foreign invasion.

A mass campaign spread to the whole country. In spite of the war against the French, the drive continued. Illiteracy was proclaimed eradicated in the plains in 1958 and among the minorities of the hills in 1965. Literacy classes developed into complementary education for adults engaged in production.

Parallel with the struggle against illiteracy, the government initiated a reform of general education. In conformity with the three principles "national, scientific and popular," it decreed in 1945 the use of the national language at all levels, the reform of curricula and textbooks, and the ideological retraining of the teaching staff in order to serve the revolution.

In 1950-51, the first reform of education was carried out. Its aim was to train "good citizens, good fighters, good cadres, good workers." Emphasis was put on the liaison between theory and practice, work and study. To replace the colonial structure of the six-year elementary and seven-year secondary level, a unified system of nine-year general education was organized (4+3+2).

After the restoration of peace in 1954 (but with the country partitioned), North Vietnam stepped into the stage of socialist construction. The second reform of education took place in 1956, providing for an extra year at the third level of general education (so that the structure became 4+3+3) and for a new curriculum and new textbooks, abolishing private education, and laying the foundation for preschool education.

Initially, higher education had to surmount the shortage of teachers, equipment, and teaching materials. Starting with the medical, law, teacher-training, and public-works colleges left by the colonial regime, it

progressively built new faculties and specialized colleges and institutes. Since 1966, there has been a Ministry of Higher Education and Specialized Secondary Education besides the Ministry of Education. Each has its own research institute.

In the Republic of (South) Vietnam, the system inherited from the French was not profoundly transformed. It retained its structure of a primary level of five years followed by a secondary level of seven (first cycle: four years; second cycle: three years). Its aim was to serve the individual rather than the society. It was bookish and unrelated to life. Enrollment increased considerably between 1954 and 1974, but wastage was high: out of 1,000 children entering grade 1, only 407 reached grade 5, some 223 passed into the secondary school, and 54 reached grade 12. In higher education, 60 percent of the students were enrolled in literature and law; medicine, engineering, and agriculture accounted for only 10 percent of the enrollment.

2. Present Situation

After April, 1975, the first measure applied in the South was *Hoc Tap*, that is the reeducation and reform of the mind in order to eliminate the old ideology and inculcate socialist values. The system was progressively reorganized, not all institutions being permitted to resume their activities (for example, the faculties of letters and law were closed, their students being transferred to teacher-training colleges or to economics institutes). School fees were abolished and private schools nationalized. At the same time, a mass campaign was initiated in order to eradicate the illiteracy of 30 percent of the adult population: this was achieved in 1978.

The final step was the inauguration of a unified system for the whole country. In December, 1976, the fourth congress of the Communist Party decided to launch a new reform to relate education more closely to the new

Table 1
Number of students and teachers 1981-82^a

Level	No. of students ^b	No. of teachers ^c	Student/teacher ratio
Preprimary	1,527,000	62,900	24.3
General education:			
Basic education (9 years)	11,235,000	356,600	31.5
Secondary education (3 years)	708,000	33,300	21.3
Complementary (nonformal) education	2,151,000	n.a.	n.a.
Specialized secondary education	136,100	n.a.	n.a.
Higher education	158,500	17,600	9.0

a Source: General Statistical Office, *Statistical Data of the Socialist Republic of Vietnam*, Hanoi, 1982, pp. 99-107 b The percentage of female students is 47.6% for basic, 45.8% for secondary, and 28.4% for higher education c The percentage of female teachers was in 1978-79 100% for preprimary, 64% for the 1st and 2nd cycles, 47% for secondary, and 20% for higher education

phase of the whole nation building socialism and the regime of the "collective master." After two years of work, the Politburo issued a resolution on the reform in January, 1979. Three aims were defined: (a) to educate the young generation from infancy to adolescence; (b) to spread education in the whole population, especially the national minorities; and (c) to train and improve the skills of the working population and to inculcate political consciousness.

The spirit of the reform was and is to combine study and productive work, theory and practice. This principle should permeate the structure, content, and methods to be reformed. The new structure consisted of a basic cycle of nine years for children from 6 to 15 years of age and a secondary cycle of three years for those 15–17 years old.

The basic cycle is compulsory for all children. After that they enter either secondary or vocational school or begin work. Secondary-school graduates can enter either specialized secondary schools or higher education. Higher education is composed of universities and institutes. The latter train technical cadres for production and teachers for general and vocational education.

Alongside the formal system of education, there is a nonformal system of complementary education and inservice training for adults in production. Complementary education is designed to retrain them so that they receive a basic or secondary education. Inservice training is meant to retrain cadres, workers, and employees in order to increase their skills.

To achieve the objectives of the reform, special importance is attached to the training of teaching and administrative staff. The aim is progressively to increase the educational level of teachers in basic schools. Other measures include the revising of curricula and production of new textbooks, the improvement of scientific equipment, management of schools, and educational research.

At the beginning of the 1980s, the new structure was being tried out. The last year of the infant school was added to the first cycle of general education to provide a primary school of five years for children of 6–10 years of age. Pupils no longer have to pass an exam to enter the second cycle (four years). At the end of the basic cycle (nine years) they can obtain a certificate. About a third of them can proceed to the third cycle (three years) after passing an entrance examination. The others enter work but can continue their studies in

nonformal education. The secondary-school certificate enables the students to present themselves for the competitive examination which determines access to universities. Teachers are trained according to the former system: at higher colleges (four years) for the third cycle of general education and at colleges for the second (three years) and first (two years). Table 1 presents the number of students and teachers in 1981–82. In 1978–79, the enrollment ratio (number of students of all ages in each level divided by the relevant age group) was: first cycle (6–10 years) 113 percent, second and third cycles (11–16 years) 52 percent, and higher education (20–24 years) 3.2 percent. The percentage of repeaters was 7 percent for the first cycle and 5 percent for the second and third cycles.

3. Major Problems

A major problem in the present situation is the quality of education. For 30 years, Vietnam was relatively isolated in terms of keeping up with scientific and technological progress. The country has to make up for lost time, to receive information from all parts of the world, to spread the learning of foreign languages (especially English, French, Russian, and German), to participate in international development, to retrain teaching staff and transmit recent knowledge, and to advance educational research. On the other hand, there are still important quantitative and qualitative imbalances between urban and rural zones, and between the plains and the mountainous areas. Finally, because of lack of funds and equipment, the implementation and efficiency of work-study schools is difficult.

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Western Samoa

R. M. Thomas

Western Samoa is a nation of nearly 160,000 Polynesian people living on four islands situated 14 degrees below the equator in the south-central Pacific Ocean. Present-

day education in the islands is a product of four successive influences—indigenous Samoan culture, nineteenth-century Christian mission efforts, twentieth-

century colonialism under New Zealand, and convictions of Samoan educational leaders who have directed schooling since the islands attained political independence in 1962.

Prior to 1830 there were no formal schools in Samoa. Children learned both the culture and vocations through direct participation in village life. The society's rich tradition of memorized oral literature consisted mainly of myths, proverbs, and recitals of family lineage which youths learned while attending family and village gatherings.

The first foreigners of any significance to settle in Samoa were pastors of the London Missionary Society who arrived in 1830, followed soon by Methodists and Catholics. The missionaries cast the Samoan language into its present-day written form so that the Bible and hymns would be available to Samoans in their native tongue. The missionaries, in addition to starting schools and church services, trained Samoans as pastors who set up schools in each village. During daily class sessions and Sunday church services and prayer meetings, both children and adults learned to read the gospel, to write, to sing, to calculate, to memorize some simple geography and history, and to acquire such vocational skills as sewing for girls and carpentry and plantation work for boys. By 1850 virtually all Samoans were professed Christians. Today Christianity continues as an important force in Samoan society.

The primary schools set up by the village pastors and the more advanced upper-elementary schools taught by the missionaries themselves, formed a schooling network that operated throughout the islands during the nineteenth and twentieth centuries. Today, pastors' village schools still convene for an hour or so each evening for pupils aged 4–5 to 16–18 who are followers of the Samoan Congregational Church (formerly the London Missionary Society) and the Methodist Church. Studies center entirely on religious topics, since secular subjects are now learned in the secular day schools that form the main present-day education system.

Prior to 1900 the Samoan people formed a relatively integrated society located on nine islands, with no distinction made between eastern and western sectors of the archipelago. However, in 1900 the German and the United States governments annexed the regions as two separate colonies, the Germans controlling the four islands west of the 170° parallel and the United States controlling the five islands east of that line. Since 1900 the education systems of the two Samoas have diverged, each assuming the characteristics imposed by the colonial power in charge of its sector.

German authorities who held Western Samoa from 1900 until 1914 were content to leave education mainly in the hands of the missionaries, requiring only that mission schools teach the German language. However, when New Zealand was awarded a trusteeship over Western Samoa after the First World War, New Zealand authorities assumed the obligation of establishing a publicly supported, secular school system. They initi-

ated this effort by transposing the upper level of the pastors' village schools (Grade II schools) into public secular institutions, leaving the lower-level schools in their original form under the pastors' control.

As the New Zealand authorities converted more village schools into Grade II primary schools (1914–40), they patterned the curriculum after syllabi from New Zealand. A relatively few pupils who attended the select school at Leififi progressed through standard 6 (grade 7 of the elementary school) where they could sit for the New Zealand Proficiency Examination.

During the 1920s and 1930s a native Samoan independence movement increasingly attracted the attention—and eventually the sympathies—of the New Zealand administration. In the mid-1940s a team of educators led by New Zealand's director of education, C. E. Beeby, was summoned to the islands to recommend ways young Samoans might be educated to assume leadership positions in an independent Western Samoa of the future. This visit produced the New Zealand Scholarship Scheme, inaugurated in 1945 to send Samoan students to New Zealand for advanced education. Over the following decade, in parallel with the scholarship scheme, existing schools in Samoa were upgraded, and secondary education was introduced, with the curricula and most of the staff imported from New Zealand. Schooling in Western Samoa had now become a copy of schooling in New Zealand (Tamati 1980 pp. 1–2).

After independence was granted to Western Samoa in 1962, education continued in much the same vein as before. However, by the late 1960s discontent with the nature of schooling in the islands was voiced by both consultants from abroad and Samoan educators and political leaders. An International Labour Organization manpower survey reported that while the majority of

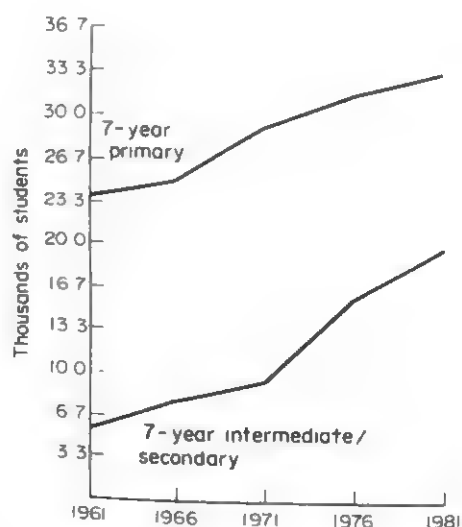


Figure 1
Public- and private-school enrollment 1961–81^a

^a Sources: *Western Samoa: Annual Statistical Abstract*, 1971, 1972, 1980

students were educated in a very academic system, there were few job openings for people with such an education. In 1969 the Department of Education reported that while 82 percent of the school-age population were enrolled in government primary schools, only 50 percent of this group were accommodated in secondary schools and only 5 percent graduated from the fifth form (level 12 of the 14-level system). A mere one percent of the entire school-age population entered higher education (Tamati 1980 pp. 2-3).

As the government leaders set up the first of a series of five-year socioeconomic development plans in 1966, they concluded that the existing school system was unsuited to the nation's development needs and to the realistic ambitions that could be attained by Samoa's youths. The main problems were identified as being a lack of sufficient opportunities for primary and advanced education, a curriculum not appropriate for Samoan conditions, and a shortage of job opportunities in Samoa or in locations abroad to which Samoans were likely to emigrate. Progress toward the solution of these problems by the early 1980s, and key features of the school system at the outset of the 1980s, are described in the following sections.

1. Structure and Size of the Education System

Prior to the 1980s, the 14-year public elementary-secondary schooling structure consisted of a seven-year primary course (primer 1, 2, 3 followed by standard 1, 2, 3, 4), a two-year intermediate course (forms 1 and 2), and a five-year secondary course (forms 3, 4, lower 5, upper 5, and 6). In addition to public schools, the education system contained private institutions sponsored by Christian missions of several types—Catholic, Congregational, Methodist, Latter-day Saint (Mormon), and Seventh Day Adventist. The grade structure of mission schools differed slightly from that of government schools. For example, the Catholics maintained nine primary schools, grades 1 to 8, and six secondary schools, grades 9 to 12.

At both the primary and intermediate levels, the great majority of pupils are enrolled in public schools with 86 percent in public primary schools and 83 percent in public intermediate schools in 1980. However, at the secondary level, private schools play a far larger role. Of the 10,767 students in upper-secondary grades in 1980, 43 percent were in mission schools (Western Samoa, Department of Statistics 1980 p. 73).

The popularity of mission high schools derived largely from the high esteem these institutions have traditionally enjoyed in Samoa. The Catholic high schools, in particular, have regularly attracted many of the best qualified intermediate-school graduates, and they count among their alumni many Samoans who have attained positions of leadership and influence in the islands. Producing a record that helps perpetuate the institutions' reputation for high-quality education.

A vigorous school building program stimulated by the government during the nation's first three five-year development plans (1966-79) enabled the nation by 1980 to make nine years of basic education available to all Samoan children. While the five-year secondary schools also expanded and new mission high schools were constructed, secondary schooling as in the past continued to be selective, with high schools admitting only those students who scored sufficiently high on the intermediate-school leaving examination (Tamati 1980 p. 8). The pace of growth in enrollment at both the seven-year primary and seven-year intermediate/secondary levels over the first two decades of Western Samoa's political independence is shown in Fig. 1.

In 1982, children in the nation's private preschool programs totaled 2,200. The enrollment in primary schools was 31,567 and secondary schools 21,643. At the secondary level, 96 percent of the students were in general academic schools and 4 percent in vocational programs. The proportion of male to female pupils was 42/58 at the preschool level, 52/48 in primary schools, and 50/50 in secondary schools. There were 123 teachers in preschools and 1,460 in primary schools, with women making up 72 percent of the primary-school teaching corps. The teacher/pupil ratio in primary schools was 1:28. In 1983, the tertiary-level enrollment was 562, with the male/female ratio 53:47. Of the 37 tertiary-level instructors, 30 percent were women (UNESCO 1984).

In 1980 a revised pattern of public schooling which would shorten the primary-secondary sequence from 14 to 11 years was approved by the government. The eight-year primary sequence would be made up of a three-year lower primary segment (class 1 through 3), a three-year middle primary segment (class 4 through 6), and a two-year upper-primary segment (forms 1 and 2). The three-year high school would consist of forms 3, 4, and 5. A main task of the Department of Education during the 1980s is to effect a smooth transition from the 14-year to the 11-year pattern.

2. Administration and Finance

Western Samoa's 135 public primary schools, 19 intermediate schools, three senior-high schools, vocational institutions, and teacher-training schools are administered within a structure headed by the director of education, who is appointed by the Public Service Commission. He is aided by three assistant directors and a professional staff located in the capital city of Apia. There are 22 school districts, each with an inspector who serves as a liaison officer for the central administration and as a professional consultant for headmasters and teachers. Mission schools are administered under their own directors and church boards.

The financing of public education is divided between villagers and the central government. Villagers have

traditionally been responsible for providing their own school building and equipment, with the government paying the salaries of teachers and administrators. However, for the 1980s the director of education hoped to provide some government funds for upgrading the quality of school buildings (Tamati 1980). Parents have continued over the years to pay a small fee for their children's schooling.

Mission schools have been supported by tuition fees and, in some instances, by grants from either the local church organizations or churches overseas.

Both public and mission educational officials at the beginning of the 1980s agreed that the key to educational progress in the near future would be obtaining sufficient funds to support the schools. Western Samoa's economy at the opening of the decade was in serious difficulty, with an annual inflation rate of 29 percent, the production of chief export products (copra, cacao) down from 20 years earlier, and world prices of copra and cacao 50 percent lower in 1981 than in 1980. The nation in early 1981 suffered its first labor strike as government workers left their jobs for higher wages. The strike lasted three months, with teachers making up one-third of the 6,000 workers on strike (Tuaopepe 1981).

New Zealand, Australia, and Japan were providing some financial aid for the construction of special vocational school facilities. However, unless the Samoan economy improves, the school system could not expect to be able to furnish the buildings, books, or teachers' salaries that would be necessary to effect development plans.

Private schools suffered financial problems like those faced by the government, so that Catholic officials were seeking a means for applying to the government for subsidies that would sustain the operation of their institutions. In summary, the future for progress in schooling did not look bright in the early 1980s unless an unforeseen solution to the nation's economic difficulties appeared.

3. Curricula and Examinations

The task of expanding schooling opportunities over the 1960s and 1970s proved far easier than that of altering the curricula to fit Samoan needs. Shortly after independence, the subjects of Samoan language and Samoan culture were added at all grade levels to the New Zealand-patterned curriculum. In addition, efforts were made to insert more practical vocational training, particularly in secondary schools. In the New Zealand tradition, the official language of instruction was still English. However, teachers were permitted at all grade levels to use Samoan whenever it seemed appropriate to make concepts clear to the pupils. In terms of language, the ultimate goal was to enable students to become fluent in both Samoan and English.

Despite the educators' ambitions to fashion the curricula more to fit the Samoan setting, by the early 1980s

the bulk of the course of study still closely resembled that of the pre-1962 era, partly because New Zealand examinations continued to be used as criteria for determining the success of students at the close of the secondary-school stages. The New Zealand School Certificate Examination served for selecting the form 5 graduates who would advance to form 6, and the New Zealand University Entrance Examination determined which form 6 graduates were qualified for higher education. Efforts were being made at the opening of the 1980s to establish Western Samoa's own examination system at the several school levels, a system better suited to the nation's needs.

4. Supply of Personnel

Teachers for Western Samoa's schools derive from two sources, local teacher-training institutions and overseas organizations. Primary-school teachers are mostly products of the nation's two-year primary teachers' training college, while most secondary school teachers have come from abroad, often provided by the volunteer services of the United States (Peace Corps), Australia, and New Zealand. To prepare secondary teachers locally in 1978 the nation established a three-year secondary teachers' training college designed to educate instructors in both academic and vocational subjects.

As in the past, the education system in the early 1980s continued to experience difficulties in attracting and retaining candidates for teaching positions. The problem of the teaching profession being unable to compete successfully with other occupational fields in prestige and income is a key difficulty educational planners are seeking to solve during the decade of the 1980s.

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Yemen Arab Republic

V. G. Desa

The Yemen Arab Republic covers a largely mountainous area of approximately 195,000 square kilometers (75,270 square miles) in the southwest corner of the Arabian peninsula. It is bordered on the west by the Red Sea, on the south-southeast by the People's Democratic Republic of Yemen, and on the north-northwest by Saudi Arabia. The country has three main geographical areas: the agriculturally productive inland highlands (1,000–1,500 meters) and valleys containing more than three-quarters of the population; the hot semidesert coastal plain; and the desert, beginning on the eastern slopes of the highlands. Agricultural land and water are scarce.

From the ninth to the mid-twentieth centuries, Yemen was under the oligo-monarchist rule of the imamates, except for a short spell under Ottoman rule. In 1962, a revolution proclaimed the emergence of a republic. A debilitating civil war ensued, lasting eight years, at the end of which the feudal regime of the imamates was overthrown. The constitution of the Yemen Arab Republic, adopted in December 1970, laid the framework for a national legislature and a modern central government and public administration.

Yemenis share the Arabic language and the Islamic religion. The population is divided almost equally between the Shiite Zeidi and the Sunnite Shafi sects of Islam. The society, however, remains fundamentally tribal. This tribal structure gives rise to the political, administrative, and social characteristics of each of the 11 governorates, the biggest being the Sanaa, Taizz, and Hodeidah.

Formal economic planning began in 1974, with a Three-Year Development Program (1974–76). Priority was given to the modernization of education and to personnel development. This development program served as the framework for an ambitious First Five-Year Plan (1977–81).

The years 1975–78 saw rapid economic growth in the modern sector, fueled by the phenomenal increases in money supply in the form of remittances from migrant workers and grants and transfer payments from the oil-rich neighboring states. Gross national product (GNP) per capita nearly tripled between 1974 and 1977, from the equivalent of US\$120 to US\$300; it rose further to US\$430 in 1980. The second five-year plan (1982–86) emphasizes the development of human resources.

The Yemen Arab Republic's first population census, conducted in 1975, revealed a total population of 6.5 million, of which some 5.3 million were resident. There were more females than males residing in the country because of the high level of male migration abroad. By mid-1980, the resident population had risen to 5.8 million. Some 90 percent of the population are settled tribespeople, residing in villages and small towns. Another 8.2 percent are urban and live chiefly in the

cities of Sanaa, Taizz, and Hodeidah. The population density in 1975 was 350 per square kilometer of arable land.

In 1975, the total labor force was assessed at 1.4 million, with nearly 20 percent working abroad. Around half the labor force was under 30 years old. The labor force was, and still is, predominantly male, reflecting the culture and tradition of the area. The vast majority of the workers (78 percent) were employed in agriculture, 12 percent in trade and services, 5 percent in construction, and the remaining 5 percent in all other sectors combined. Around 90 percent of the labor force in 1975 were in occupations at the lower end of the skill spectrum. At the other end of the spectrum, only 1 percent were professionals and another 0.5 percent administrators and managers. With the emphasis on personnel development, the education/training attainment profile of the labor force has improved. It has been estimated that in 1980, some 80 percent of the labor force were in occupations at the lower end of the skill spectrum, some 3 percent were professionals, and 0.7 percent administrators and managers.

1. Structure and Size of the Educational System

Until the 1950s, the educational system consisted essentially of Koranic schools whose exclusive purpose was religious and literacy training. One of the actions taken by the revolutionary republican council in 1962 was to establish a formal educational system of public schools, but effective educational development did not commence until the end of the civil war. The system in 1970 comprised a 6-year primary cycle, a 3-year preparatory (lower-secondary) cycle, a 3-year secondary (upper-secondary) cycle, and up to 4 years of university education. During 1970–82, the system underwent some changes (see Fig. 1). The preparatory cycle is now divided between general preparatory and vocational schooling, including primary-teacher training. The general preparatory schooling leads to the secondary cycle, where the following options exist: general (arts and science streams), technical, commercial, agricultural schooling, and primary-teacher training.

The educational system expanded rapidly from a small base in 1970. Figure 2 illustrates this dramatic growth in enrollments experienced at all school levels, particularly at the primary-school level, while Table 1 shows the percentage of the school-age population in schools in 1971, 1975, 1979, and 1981. Female enrollments at the different levels of schooling as a percentage of total enrollments did not increase significantly over the period 1971–81. In 1981–82, these percentages were 12.1, 12.6, and 13.5 in the primary, preparatory, and secondary cycles respectively.

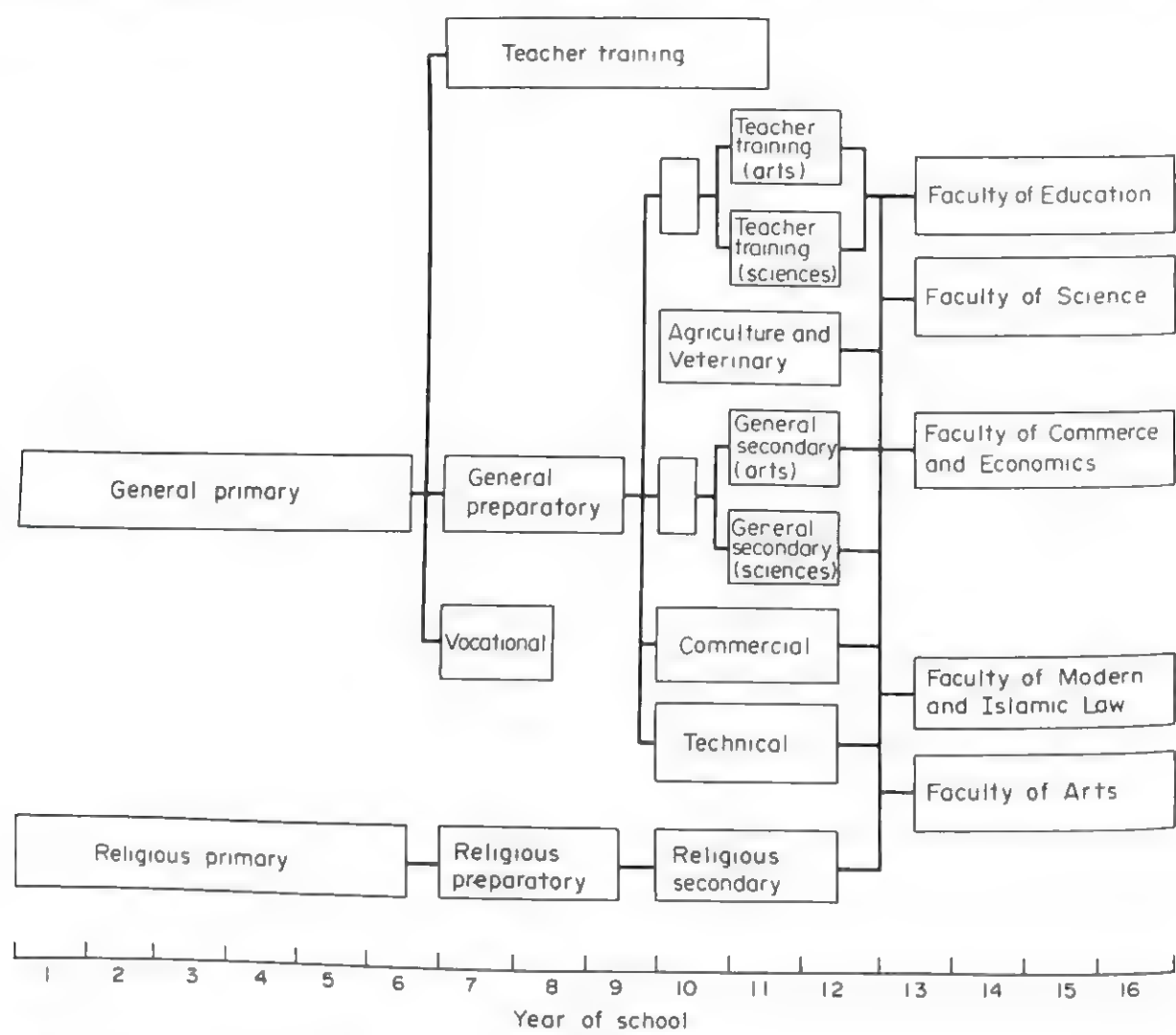


Figure 1
Structure of the educational system

Strongly embedded social customs limit girls' participation in education.

In 1978-79, the completion rate in primary schooling was a low 12 percent. On the other hand, the schooling cycle transition rates were satisfactory: 85 percent from primary to preparatory, 100 percent from preparatory to secondary, and 78 percent from secondary to university. A favorable shift of enrollments has occurred in the science streams of the general secondary schools (70 percent in 1979-80 in grades 11 and 12) and in technical secondary schools.

The University of Sanaa, the only institution of higher education in the Yemen Arab Republic, opened in 1970, with faculties of arts, science, and modern and Islamic law. Later, in 1973, faculties of education and of commerce and economics were added. This growth was made possible with generous assistance from other Arab countries, notably Kuwait. By 1980-81, 4,300 students were enrolled in the five faculties, of whom 11.0 percent were female. A significant number of

Yemenis go abroad each year for higher studies; their number has exceeded 500 students per year since the late 1970s.

Adult nonformal education and vocational training for skills development are shared among five different ministries and a number of agencies. Since 1970, the major campaign against illiteracy has been carried out by the chief literacy organization (called the National Council for Nonformal Education), attached to the Ministry of Education. The adult literacy program comprises an attenuated primary-school curriculum of grade 4-level literacy and numeracy skills. In 1979, some 12,600 adults were enrolled in 97 literacy centers operating in public schools. Institutional training in vocational centers has been slow in evolving. In 1974-75, district training centers were created by the Ministry of Education and combined the literacy program with the provision of basic training in trade skills. The number of adults receiving such training in 1980-81 was 742. Vocational lessons are also given to adults at centers

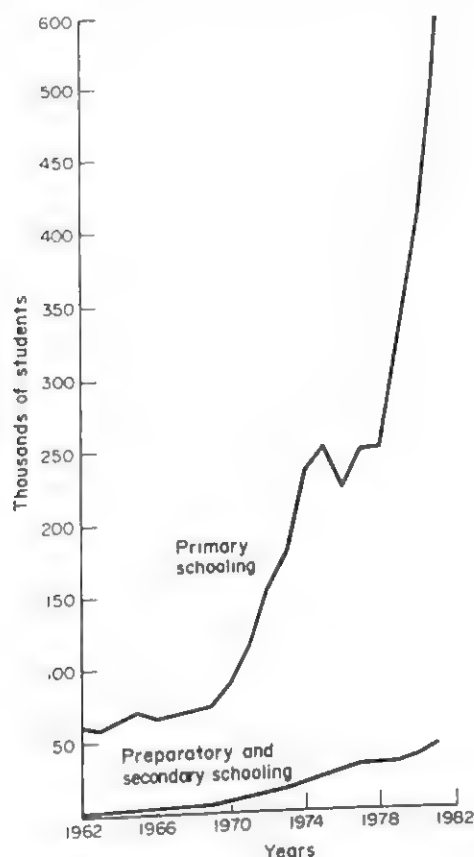


Figure 2
Enrollments at different levels of schooling

operated by the different ministries and agencies in agricultural practice, health care, home economics and nutrition, and sewing and weaving.

2. Administration and Finance

The Ministry of Education is responsible for formal-education administration at all levels, except that of the university. The central ministry is structured into five general directorates. It shares the management of its tasks with its regional offices in each of the governorates. Each regional office maintains close liaison with the governorate administration and with the local development associations. The local development associations have as their objective to foster self-help among local groups and traditional tribal leadership in the

Table 1
Percentage of school-age population at school, 1971-81

Education cycle	1971-72	1975-76	1979-80	1981-82
Primary	12.0	27.0	34.0	48.7
Preparatory	1.5	4.0	5.0	7.2
Secondary	0.5	2.0	2.7	2.5
Higher education	0.2	0.6	1.1	1.0

provision of social service facilities. Between 1973 and 1976, some 600 schools were successfully constructed by the local development associations with matching funds from the central ministry.

Decision making is not left solely to the officials of the central ministry. The essence of major decision making, for example, the location of schools and the type and size of schools, is the concurrence of all interested parties, including some outside the educational scene.

The state has received large inputs of foreign aid for both capital and recurrent education expenditures. Public expenditure on education has been impressive both in terms of the proportion of the total state budget and of the proportion of gross national product (GNP) (Table 2). The proportion of GNP allocated to primary education is high in comparison with other developing countries. The distribution of educational expenditures in 1981-82 was: 75.4 percent for primary, 8.9 percent for preparatory, 4.3 percent for secondary (including technical), 1 percent for teacher training, and 10.4 percent for university education.

A major element in high recurrent unit costs was the cost of expatriate teachers who form the bulk of the teaching force in the Yemen Arab Republic. In 1980-81 Yemeni teachers constituted a low proportion, 25 percent and 5 percent respectively, out of a total of 9,830 primary and 2,600 preparatory- and secondary-school teachers.

Table 2
Education expenditure, 1976-81

	1976-77	1979-80	1981-82
Education expenditure as:			
Proportion of state budget	7.0	11.2	11.6
Proportion of GNP	1.3 ^a	5.0	5.3

a Gross domestic product

3. Teachers, Curriculum, and Examinations

In 1979-80, there were 12 preparatory-level and 10 secondary-level primary-teacher-training institutes enrolling respectively only 907 and 675 students (33 percent and 42 percent females respectively). The following steps have been taken to increase the numbers of Yemeni primary-school teachers: (a) inservice training of some 2,000 inadequately qualified teachers; (b) a preparatory-level teacher-training program lasting from three to five years; and (c) the training annually of some 30 Yemeni teacher-trainers to staff the primary-teacher-training institutes.

The preparation of secondary-school teachers at the university has been successful. Students receive special stipends and a continuance of their salaries if employees of the ministry. In 1980-81, some 450 students were

registered in the first-year class of the four-year course of studies at the faculty of education.

A uniform nationwide curriculum for all levels of education was developed in the late 1970s, with technical assistance provided to the Ministry of Education by multilateral and bilateral agencies, which also assisted in the preparation of textbooks. Textbooks for primary schools are printed at the government's printing press and distributed to the schools through the regional offices of the ministry. Educational aids, such as charts, posters, filmstrips, and slides are produced at the educational materials production center of the ministry.

In the late 1970s, the ministry's directorate of curricula, books, and educational aids began to take initiatives in school curriculum development. With the assistance of the university, the mathematics and science curricula were evaluated. Likewise, with the participation of the primary teacher trainers' center, new curricula for the primary teacher training programs, integrating instruction in subject matter and teaching methods, were being developed. A new functional-oriented adult literacy program is also being developed with the cooperation of UNESCO and Arab agencies.

In higher education, curriculum development has been an ongoing process especially as the university has been successful in attracting qualified Yemenis to return from abroad to take up teaching assignments.

The Ministry of Education issues directives for the conduct of both the school grade examinations and the national final examinations held at the end of each school cycle. The regional offices supervise the school grade examinations; promotion to the next grade is the result of these examinations. The ministry administers the national final examinations; a student's promotion to the next level of schooling is dependent on passing these examinations. A supplementary examination is given to failed students before the commencement of the new academic session. The pass rates for the 1978-79 final examinations were 62 percent for the primary cycle and 51 percent for the preparatory cycle. The

passing percentages in the final secondary-school examinations in the same year were 72 percent for the science stream; 58 percent for the arts stream; 86 percent for the commercial-school stream; and 99 percent for the technical-school stream.

4. Educational Research

An autonomous educational research and development center was created in 1982 by the Ministry of Education. It forms the institutional base for dealing with a comprehensive range of issues of educational research and development, as well as providing practical assistance to the operational services of the ministry. Among the identified priority objectives of the center are: (a) to improve the low internal efficiency of primary education; (b) to increase the supply and retention of Yemeni teachers and vocational instructors; and (c) to compile an inventory of the country's educational facilities and school-location planning (only 25 percent of the primary schools offer all six grades of schooling).

Among the major problems predicted in the educational system in the 1980s and 1990s are: (a) provision of Yemeni teachers and instructors for all levels and types of schooling within the system; and (b) certification of skill training conducted at the vocational training centers and vocational schools operated by the different ministries and public agencies.

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Yemen, People's Democratic Republic of

S. A. K. Al-Noban

The People's Democratic Republic of Yemen emerged as an independent nation on November 30, 1967 after 129 years of British colonial rule. The pattern of the educational system at Independence was that prevalent in other British colonies, characterized by low rates of enrolment, irrelevance of curriculum to local conditions, and the absence of technical, agricultural, and higher education (Coleman 1968 p. 35).

Since independence, one of the goals of education has been to develop and root deeply the concept of nation building in new generations, to create unity after 129 years of division into sultanates, sheikhdoms, and

emirates when there was more than one system of education (Al-Noban 1979).

On June 22, 1969, a drastic political change took place, with the overthrow of the right wing of the ruling National Liberation Front and the coming to power of the left wing. Through the Programmes of National Liberation and of the Revolutionary National Democracy Period, socioeconomic reform was declared. This has been pursued through national development plans, the first socioeconomic plan of 1971-74, the first five-year socioeconomic plan of 1975-79, and the second five-year plan of 1980-84.

1. Goals of Education

Education is considered an important factor in the successful implementation of the socioeconomic plans. The following are the major aims:

- Education for nation building based on the philosophy of scientific socialism accepted by the Socialist Party of Yemen.
- Concentration on the development of human resources.
- Creation of a consciousness of the national cultural heritage and its progressive development.
- Development of the individual, multifaceted personality and the democratization of educational opportunities. Universal primary education for eight years beginning at age 7 is envisaged by the year 1995 (Al-Noban 1979).

2. General Structure and Size of the Educational Effort

Since independence, the general structure of the system has been modified twice. The first time was immediately after independence when the different structures in practice during the British colonial period had to be abolished due to the urgent necessity to create a unified system of education throughout the Republic. This was aimed at developing a sense of identification with the newly emergent Republic. The Ministry of Education thus adopted a structure of 6-3-3 which is the pattern adopted by some Arab countries in the Baghdad Cultural Pact.

The second modification occurred in 1975, when, in accordance with resolutions of the first education congress organized by the ministry, the structure was changed into an integrated one from kindergarten to university (2-8-4-university). The merits of this new structure are various; apart from guaranteeing a structural coordination of the learning experiences throughout the different levels, and providing eight years of universal schooling for children, it is envisaged that all education beyond the first level should be linked to social and economic needs.

The first level of education consists of the unity schools of eight classes. The second level of education

comprises extended-secondary academic education of four years' duration, which is mainly a preparation for university, or specialized secondary education of five years' duration, or vocational education of two years' duration. Such a tripartite system of secondary education helps to develop the different categories of human resources required for national development. The system is not closed, for the very promising students from vocational schools can follow specialized secondary courses, and the promising ones in specialized secondary courses can enter university studies.

Considering the limitations of the educational opportunities under British colonial rule, and given that the Ministry of Education has made democratization of education part of its philosophy, it is planning to accommodate the age group 7-14 in the first level by 1995. Heavy investments in education have already been allocated in the development plans of 1971-84; the results achieved are shown in Table 1.

Education at all levels is open to both sexes, and equal opportunities are, to a large extent, maintained for males and females. The enrolment for both sexes in the Aden Governorate is near to the total number in the age group, but large gaps are observable in sex-enrolment ratios in some other governorates. This is mainly due to the deprivation of educational opportunities under British rule and to the social traditions prevalent in rural areas which allowed education only for certain social classes and for males.

Nonformal education is not yet a general phenomenon in the People's Democratic Republic of Yemen, but a beginning has been made. The major issue is illiteracy. Those who complete the prescribed literacy programme are supposed to have the same level of achievement as students in grade 4 of the first level. Some of those who have completed it have then pursued their studies up the educational ladder, and a handful are now at the university.

3. Administrative and Supervisory Structure and Operation

The present administrative trend is towards centralization of planning and policy and decentralization of implementation. Such issues are discussed in the Ministry of Education by a consultative committee chaired by the minister, the members of which are the deputy minister and assistants, the directors general of

Table 1
Increase in educational provision between 1966-67 and 1980-81

Academic year	No. of schools		No. of students		No. of teachers	
	Primary	Secondary	Primary	Secondary	Primary	Secondary
1966-67	249	7	49,828	2,992	1,745	165
1980-81	897	39	225,977	26,160	10,072	1,199

the governorates, the party secretary in the ministry, members of the teachers' association, etc. The administration carried out by the ministry complies with the resolutions of the committee.

Educational administration in the governorates is under the director-general of each governorate who is responsible to the minister for implementation of policy matters. He reports also to the local people's council in the governorate. The administrative structure in the governorate is similar to that of the ministry. The director-general is assisted by three deputies—academic, administrative, and political. Schools come under the jurisdiction of the people's council in the governorates. An annual budget is allocated to each governorate and responsibility for expenditure lies with the director-general. At the level of the district, the administrative unit below the governorate, education is supervised by a director of education, aided by the necessary staff.

The role of the ministry in the governorates is advisory and supervisory. It is advisory in the sense that it helps in clarifying the policy decisions which a governorate is supposed to implement and in training high-level personnel. It is supervisory in ensuring that party and government policy on education is carried out correctly as directed.

The University of Aden, the only one in the People's Democratic Republic of Yemen, is headed by a rector assisted by three deputies—academic, administrative, and political. The Minister of Education is the chancellor. The academic council in the university is responsible for academic matters. It is headed by the academic vice-rector and membership consists of vice-deans of faculties and selected professors. The University of Aden comprises six faculties: education, economics, agriculture, law, medicine, and technology. The faculties are headed by deans assisted by two deputies, one for academic and research matters, the other for political matters. Each department has a head who is responsible to the faculty council.

Table 2
Education budgets 1968 to 1981

Year	Ministry budget (dinars)	As percentage of government budget
1968-69	1,829,600	—
1969-70	2,214,700	—
1970-71	2,471,300	—
1971-72	3,230,600	14.2
1972-73	3,230,600	14.2
1973-74	3,475,500	14.8
1974-75	4,323,900	14.8
1975-76	3,202,900	14.7
1976	6,476,600	16.9
1977	8,223,700	16.8
1978	11,698,200	18.0
1979	13,428,200	17.8
1980	17,460,600	16.9
1981	21,037,100	9.0

4. Finance

Departing from its general educational concepts (i.e. democratization of education and equal educational opportunities), the government has taken full responsibility for financing education. To meet the huge expansion in enrolment, the budget has considerably increased from 1968 to 1984, as shown in Table 2.

Education in the People's Democratic Republic of Yemen is free, and students are provided with transport to school and textbooks, and there are boarding facilities for children from remote areas. The university provides free education, free textbooks, and an allowance for each student of US\$60 a month in addition to accommodation in the boarding section.

5. Supply of Personnel

Preparation of personnel for schools is organized in two kinds of institution—colleges of education in the University of Aden and the teacher-training institutes supervised by the Ministry of Education. Teacher-training institutes prepare teachers for grades 1-4 of the first level. Students are enrolled after the eighth grade and pursue their studies for four years. Teachers are prepared to teach Arabic language, mathematics, and an ancillary subject in the study plan. Preparation for special subjects like physical education and music and for chemistry and biology is organized separately. There are seven such institutes catering for the different governorates.

The college of education prepares teachers for grades 5-8 and 9-12 in two separate courses of two and four years' duration respectively. Subject specialization for each is almost identical: Arabic, English, history and geography, mathematics and physics, chemistry and biology, and philosophy. A diploma is awarded after the two-year course and a Bachelor of Education degree after the four-year course. Professional educational subjects, such as psychology and teaching methods, take up 12-15 percent of the time. A central inservice training institute, administered by the ministry, organizes short courses in administration for headteachers and their assistants, kindergarten teachers, and other personnel. It is planned that this institute will fill the gap by giving courses which are not catered for by the university.

6. Curriculum

After independence, a department of curriculum was established as part of the organization of the ministry. In 1975, an Education Research Centre (ERC) was established under the direct responsibility of the minister. The target plan for the centre is to develop into an academy for research and training in educational sciences.

At present, the centre makes use of the university specialists who help in the preparation of programmes, the writing of textbooks, and the evaluation of the

learning and teaching processes in schools, in co-operation with experienced teachers.

The curriculum and textbooks are uniform throughout the Republic except for technical subjects, for which the curriculum is industrially oriented in cities and agriculturally oriented in rural areas.

7. Major Problems

The People's Democratic Republic of Yemen is endeavouring to build a modern system of education tailored to the real needs of development. To use Beeby's classification, the educational development of the Republic is now at a stage of transition (Beeby 1966 p. 72). The problem of wastage, which is not negligible, and of the quality of education must be tackled. Another major problem is the need to orient students towards

vocational and specialized secondary education rather than to pure academic secondary or university education.

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Yugoslavia

A. Kornhauser

The Slavs settled in the Balkan peninsula in the sixth and seventh centuries AD. Through the centuries they formed independent Slovenian, Croatian, Serbian, and Macedonian states and fought successively against the Avars, Byzantines, Franks, Venetians, Turks, and Austro-Hungarian monarchy. In spite of this permanent exposure to attack, they developed a rich cultural heritage, a large part of which is based on the Cyrillic alphabet developed by the Solun brothers, Cyril and Methodius, in the second half of the ninth century. In December 1918, Yugoslavia was declared the Kingdom of Serbs, Croats, and Slovenes. In the Second World War, it was attacked in 1941 by the German, Italian, Hungarian, and Bulgarian armies. The Communist Party, headed by Tito, linked the Yugoslav nations and nationalities, and organized them in the National Liberation War. In November 1943, the Federal National Republic of Yugoslavia was founded by the deputies of all Yugoslav nations. The present name of the country, the Socialist Federal Republic of Yugoslavia, was declared in 1963 to emphasize its self-management system, established in 1950.

Six republics and two autonomous provinces form the Socialist Federal Republic of Yugoslavia: Slovenia, Croatia, Serbia, Bosnia and Herzegovina, Montenegro, and Macedonia as republics, and Vojvodina and Kosovo as autonomous provinces. Yugoslavia today covers 255,804 square kilometres (98,740 square miles). Its neighbours—Italy, Austria, Hungary, Rumania, Bulgaria, Greece, and Albania—represent several cultural and ethnic groups, so that Yugoslavia forms a cultural, ethnic, and political crossroads of great importance. A considerable part of the Yugoslav border runs along the Adriatic Sea.

Some 30 percent of the land is less than 200 metres above sea level (mainly the Pannonian plain), 53 percent

is from 200 to 1,000 metres high, 14 percent is from 1,000 to 1,500 metres high, and about 3 percent lies above 1,500 metres.

In 1921, Yugoslavia had 11,984,911 inhabitants. By 1939, the population had reached 15 million, in 1958, 18 million, in 1974, 21 million, and in 1981, 22.5 million inhabitants. The annual population growth rate decreased from 1.58 percent in 1921 to 0.78 percent in 1981, mainly as a result of the employment of women and family-planning education since 1950. The infant mortality rate fell from 16.4 percent in 1931 to 3.1 percent in 1981. In 1981, there were 8.1 million Serbs, 4.4 million Croats, 2 million Moslems, 1.8 million Slovenes, 1.7 million Albanians, 1.3 million Macedonians, 0.6 million Montenegrins, and smaller numbers of Hungarians, Slovaks, Turks, Bulgarians, Czechs, and Italians. Every nation and nationality (national minority) has the right to education in the mother tongue. In Vojvodina, for example, 26 languages are taught in different bilingual combinations.

From 1948 to 1981, the percentage of the employed population in public enterprises rose from 20 to 61 percent whilst those in agriculture decreased from 67 to 29 percent. The percentage of the total population living in urban areas increased from 21 to 48 percent over the same period. The percentage of women as a proportion of the working population has increased from 36 percent in 1971 to 45 percent in 1981 in the more developed republics.

1. Goals of the Educational System

The main goals of the educational system are:

- (a) the development of intellectual abilities and manual skills, as well as cultural and social attitudes;

- (b) to link education and productive work and emphasize other activities in society geared both to the needs of the individual and to the development of the community;
- (c) education for self-management processes in society;
- (d) to communicate respect for work and to link physical and intellectual work;
- (e) the guarantee to everyone of equal chances for education and the raising of the employment level; and
- (f) the establishment of a system of lifelong education and the creation of the possibility of promotion in every profession.

2. Structure of the Educational System and Enrolments

During the 1980s, one structure of education is being phased out and a new one introduced (Fig. 1). The

Type of school	Level	Year	Part-time education
Universities, colleges	Postgraduate	Ph D M.Sc. (1) (2)	Specialization
Universities, colleges	Undergraduate	(1) (2) (3) (4)	Tertiary part-time education
Educational centres	Secondary	(1) (2) (3) (4)	Second phase Common basic phase
Primary	Basic	(1) (2) (3) (4) (5) (6) (7) (8)	Elementary adult education
Kindergarten	Preschool	(1) (2) (3)	

Figure 1
The new educational system in its introductory period (1980s)^a

a Slight differences exist between republics and autonomous provinces, e.g., the common basic phase in some republics lasts only one year

major change is in secondary education. The old system, based on the prewar selective philosophy, had, on the one hand, four-year grammar and technical schools and, on the other hand, two- or three-year vocational schools. This dualism is being abandoned in favour of one type of secondary school. The first two years of secondary schooling are to be general but with links established between school and the world of work. The curriculum is also being revised to introduce the various new achievements in science and technology. More emphasis will be placed on problem solving and independent study. Computer work, either in cooperation with firms or by using microcomputers in school, will be introduced.

Preschool begins at 3 or 4 years of age. Approximately 25 percent of an age group were enrolled in the last year of preschool in 1981. In urban centres, the figure was about 40 percent. In 1948, only 1.5 percent of an age group was enrolled. The aim is to offer high-quality preschool educational programmes carried out by qualified educational personnel. A special feature of preschool education is the so-called "little school" at age 6, which is an interface between preschool education and primary school. All children must attend the "little school" for a period of at least six months. In a number of cases the "little school" has helped to lower the age of entry to primary school from 7 to 6.

Primary school is compulsory by law. The reform emphasizes a full eight years of primary education for everyone, which is, considering the high dropout rate, a demanding task. Specially designed programmes are being carried out to support efforts for the approximately one-fifth of the age group who drop out to finish full primary schooling. In addition to primary schools, there are therefore institutions for adult primary education as well as special programmes for handicapped children. Bilingual programmes support the culture and individual demands of every nationality. Yugoslavia has about 1,600 schools with about 13,400 departments offering different forms of bilingual education.

Since 1940, the enrolment of students has increased fivefold and the number of teachers fourfold. The highest growth has been in technical and vocational schools, which in 1981 enrolled seven times as many students as in 1940.

The most dynamic growth, however, has been in tertiary education—in 1981, there were 25 times as many students as in 1940. Yugoslavia has 19 universities with approximately 300,000 students. Some 40 percent of students are female. Technical studies have the highest number of students (24 percent), followed by economics (20 percent), law (17 percent), medical sciences (7.5 percent), social and philosophical studies (7 percent), natural sciences and mathematics (5.5 percent), and agricultural and forestry studies (5 percent). Since 1950, over 600,000 students have graduated, 10,000 have reached M.Sc. level, and about the same number have gained a Ph.D. Over 40,000 students graduate each year.

The problem, however, is the length of time that students commonly take to graduate, which is about 30 percent longer than planned. Great efforts are therefore being made to establish studies with continuous assessment but without a lowering of standards. An important change has taken place in the social background of tertiary-level students, whereby the proportion of students from workers' and farmers' families has reached a level more adequately corresponding to their percentage of the age group—they form about 40 percent of the tertiary student population. This has been achieved by an efficient grant system.

Colleges with courses of study lasting two to three years are found throughout the country and are therefore easily accessible to everyone. They emphasize economics and related sciences (28 percent), teacher training (20 percent), and technical studies (19 percent).

Nonformal education is offered in over 400 institutions for adult education, called "workers' universities", as well as about 200 educational centres in industrial enterprises. They help some individuals finish primary education and organize a number of programmes for professionally oriented education and training (technical training, economics, and the like) at secondary, and partially also at tertiary, level, mainly in cooperation with tertiary-level institutions. In cooperation with schools, the workers' universities award formal certificates with a wide validity. The educational centres, however, give qualifications valid only inside the organization.

An interesting programme offered by these institutions carries the courses in self-management education, providing workers with a clear understanding of their duties and rights in the self-management system of the country.

In one republic alone (Slovenia), nearly 0.5 million students per year are enrolled in organizations for adult education, either in short courses or in part-time courses lasting a full year.

A special programme for the children of migrant workers offers instruction in their mother tongue, geography, and national history, and supports their links with the home country. The educational role of cultural centres, youth organizations, television, and radio should not be forgotten. All of them have extensive educational programmes.

3. Administration and Finance

The Yugoslav educational system is decentralized. Its main characteristic is self-management, with direct links to other fields of work, all being bound together in a system of associated labour. The self-management system was set up by the constitution of 1953 and has developed since then in all areas of work and life.

As shown in Fig. 2, three main lines of organization exist in this system in parallel: the self-management communities, the political bodies (assemblies and their executive councils), and the professional bodies at the

level of the community or region, at the level of the republic or autonomous province, and at the federal level.

Every school is run by a council, consisting of delegates of teachers, and of students and/or parents. In addition to these, delegates of the local community are entitled to participate in decision making when this concerns topics of broader interest. Both groups send delegates to the self-management community (council) for education at the commune and higher levels.

In these self-management communities, the delegates of schools and other educational organizations form one part of the assembly, and the delegates of workers in all fields of work, with delegates of the local communities, form the second part. For an important decision, a majority has to be achieved in each of the two parts of the assembly. In meetings of the self-management community, educational planning, programmes, organization, and finances have to be decided upon. Only the general framework for negotiations in self-management communities is laid down at federal or republic level. If financial needs exceed the guidelines drawn up by the republic or autonomous province, the local self-management communities often organize an additional collection of contributions from everybody. Many such collections have helped to build new kindergartens and schools.

The amount of money allocated to education has increased since 1960 from 2.4 percent to about 6 percent of the national income. The world economic crisis in the 1980s has tended to make this figure lower in Yugoslavia as it has elsewhere. The distribution is approximately as follows: 55 percent for primary education (first eight years of schooling), 28 percent for secondary (following four years of schooling), and about 17 percent for tertiary education. Private resources are negligible and cover a small part of the costs of part-time courses, paid as students' fees.

The basic principles for grant schemes are settled by a special self-management agreement for grants in each republic or autonomous province. Students receive grants according to their financial background and the results of their studies. Another important contribution to their education is well-organized, low-cost student halls, housing approximately 100,000 students at the secondary and tertiary levels. In the new reform, a strong emphasis is being laid on linking study with work, one of the benefits of which will be an improvement of the financial situation of students.

4. Teacher Training and Teacher Supply

The older teachers in kindergartens have five years of secondary schooling. In the 1980s, two years of higher education are being introduced in most republics and autonomous provinces as the qualification for kindergarten teachers.

Primary-school teachers must have a minimum of two years of tertiary education in a teacher-training college.

Most republics and autonomous provinces have decided to increase this requirement to four years of tertiary education by the end of the 1980s at the latest. In urban centres in 1982, a considerable proportion (up to one-third) of teachers had four years of tertiary education. Some of them also had an M.Sc. or Ph.D. Many elementary and secondary schools have specialists in psychology and educational theory, who help teachers, parents, and students to solve educational problems.

In the 1970s, there was still a shortage of elementary-school teachers in remote villages, but by the 1980s this problem had been overcome by the grants policy of self-management communities as well as the rising level of unemployment among qualified staff in cities. However, there is a lack of sufficient qualified personnel for secondary teaching. This is true especially of teachers of mathematics and technical disciplines. In 1976, of the 180,000 secondary-school teachers, 153,000 were fully qualified, 10,000 partially qualified, and 17,000 unqualified.

A teacher usually teaches about 30 students in a class in a primary or secondary school for 18 to 24 periods a week.

The main efforts being made to improve the quality of teachers are the organization of part-time studies for teachers and inservice training. The latter is organized by professional educational organizations and carried out mainly by the universities. Each teacher must attend several one- to three-day courses per year. Attempts are being made to develop a system of permanent inservice training of teachers. Science and teachers' associations tend to support these attempts.

University teachers are appointed for a period of three years (lecturers) or five years (full professors). After this period, the post is advertised and the current holder reelected if there is no better qualified candidate. The main criteria for selection are research carried out, followed by the educational achievements and the wider activities of the candidate in the community and/or university.

5. Curriculum Development

Because of the decentralization of the educational system, only the general outlines of the curricula are discussed and agreed at the federal level. The main curricular-design activities take place at the level of the republic or autonomous province, mainly in the professional bodies of self-management communities, which include researchers, teachers at all levels, and experts from industry and other work areas. The educational council of the republic or autonomous province takes the leading role. In this way, close links with research and productive work are given top priority.

The curriculum is, in general terms, uniform in any republic or autonomous province, but allows for the inclusion of local differences, thus allowing the teacher a certain degree of freedom in the selection of content. The general outline of the curriculum consists of:

- (a) goals and criteria for the selection of content in education;
- (b) compulsory forms of educational activity, including the organization of teaching (lessons, laboratory work, practical work, excursions), with a limit to the number of students in each group;
- (c) guidelines for cooperation between teachers;
- (d) textbooks and manuals for students, and manuals for teachers (which are not always available);
- (e) other literature for educational activities;
- (f) minimal material conditions for schools (classrooms, laboratories, library, teaching aids); and
- (g) requirements for the qualifications of teachers.

The typical curriculum consists of the mother tongue, one (at primary level) or two (at secondary level) foreign languages (mainly English and German or French), history, geography, mathematics, natural sciences, basic technical education, social sciences, and education for national defence. Vocational education provides a basic professional knowledge and skills, which are then used and improved in the first year of professional work.

At tertiary level, strong emphasis is put on research and development work for industry, other parts of the world of work, and the local community.

Textbook writers are selected on the basis of advertisements. University teachers are predominant among them, followed by secondary-school teachers and experts from industry. The preparatory phase is guided by professional educational institutions at the level of the republic or autonomous province. The textbooks are tried out in cooperation with teachers for two to three years, with the necessary revisions being made. In the 1970s, textbooks were still purchased mainly by parents and students. In the 1980s, more and more schools are providing textbooks free of charge to students.

The implementation of curricula, as well as the introduction of new textbooks and other materials, is supervised by educational research institutions and professional bodies in self-management communities. In such supervisory studies, it is often claimed that the introductory period is not sufficiently research-based and is too short.

Teaching methods depend to a large extent on the teacher. The "factographic approach" is heavily criticized, but was still prevalent in 1982. Problem solving, the research approach, and structuring of knowledge are slowly being introduced, with much effort and success in some disciplines, and with little of either in others. To achieve better results, centres for teaching methodology in the different sciences and arts are being organized in universities. Where they exist and are active, the results are encouraging.

Among the techniques used, audiovisual aids and computers are stressed increasingly. The greatest

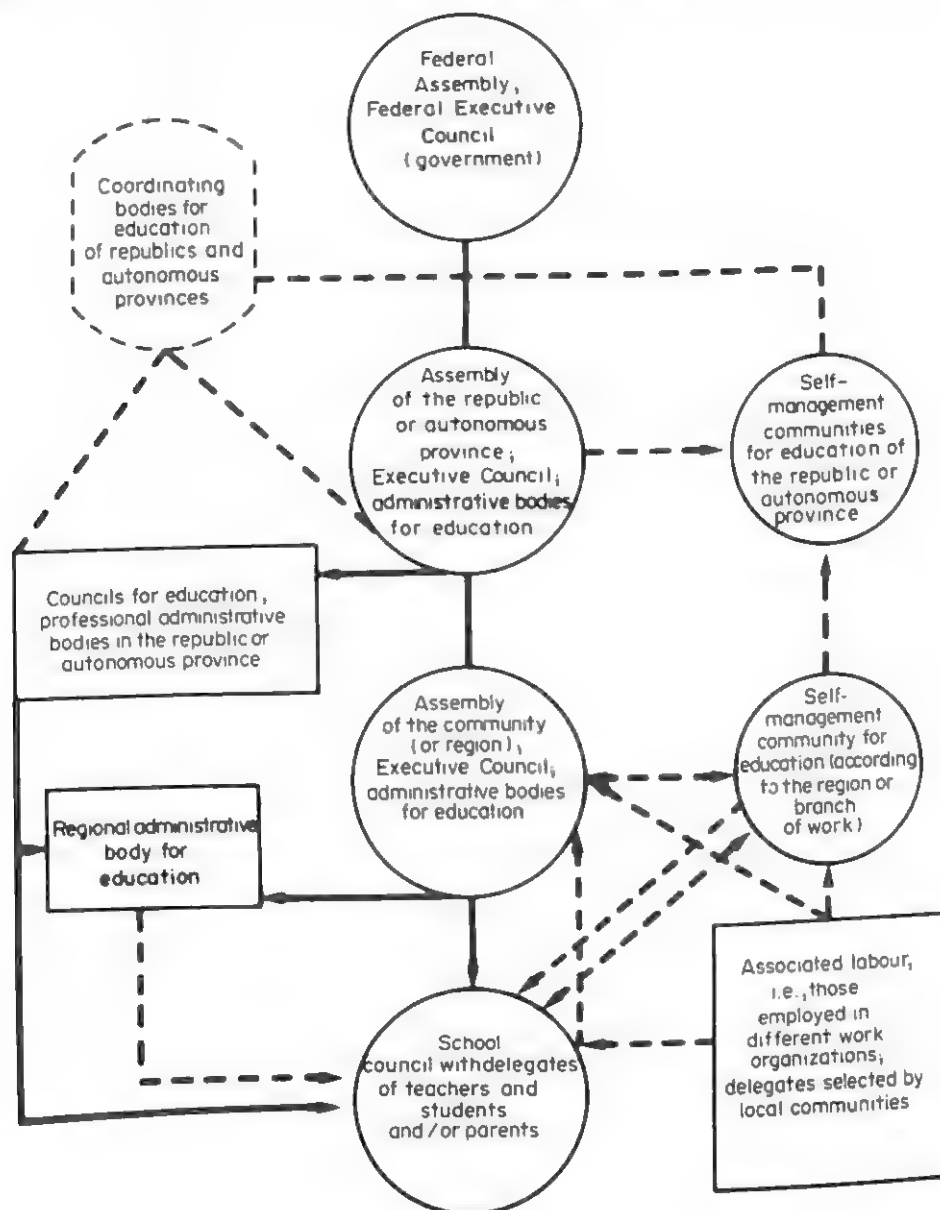


Figure 2
Organization and administration of the educational system

emphasis is, however, put on experimental work in laboratories as well as on practical work in industry and other work organizations.

The research approach is being introduced mainly in out-of-school activities, including students' groups in schools, clubs of young researchers, youth research projects, and summer research camps. In these, universities and academies of science cooperate with industry and youth organizations to provide professional support to tutors and funding.

The main efforts, however, are devoted to the development of the educational role of creative work. Work organizations are therefore directly engaged in curricular activities, cooperating in the design of curricula, helping with their professional staff in teaching, and organizing the practical work of students. The schools

with very close links with industry show the best results in these efforts.

6. Promotion and Examinations

Student achievement is still graded mainly by numbers: 1-5 at primary and secondary levels and 1-10 at the tertiary level. Efforts are being made to develop a descriptive method of assessment, providing an integrated presentation of a student's achievements and enabling students to continue their studies at higher levels. There are also some test item banks, partly computerized, with characteristic results for selected regions, collected mainly in cooperation with teachers in the region, or in regional competitions. These test item banks help the teacher in examining students.

The problem of an integrated examination system, taking into account not only the student's performance, but also the teacher's work, the quality of the curriculum, the organization of the school, and the impact of the environment, is still an open issue and is discussed mainly in schools' councils and in self-management educational communities.

Another problem, arising especially when a student wishes to change from one curriculum to another, lies in estimating the equivalence of different curricula, from the point of view of content and expected cognitive achievement. This represents a problem especially at the secondary-tertiary interface.

7. Educational Research

Educational research is carried out in universities and specialized educational research institutions in every republic and autonomous province. This research considers the goals of education appropriate to different needs, the criteria for the selection of content, the development of new teaching units, the development and implementation of teaching methods, the introduction of new teaching techniques, the development of a system of evaluation, and improvement of curricula. Quite a large part of developmental research is devoted to the training, including inservice training, of teachers.

Another development is that of informatics, which is slowly being introduced in curricula, mainly at the tertiary level. The high price of computerized data and the lack of sufficient numbers of computers are strong limiting factors. Universities, however, are tending to attach greater importance in the 1980s to this programme, which is encouraged by industry and commerce.

General research studies include studies on the planning and finance of education, the development of the self-management system, the evaluation of the views of the younger generation towards society as a whole, and the links between the school and industry and the local community.

Studies are designed, agreed on, and financed by research self-management communities, analogous to the educational communities, with which they have close links. The research results are published in a number of educational journals at the federal and regional levels. Quite a number of studies have also been published in international journals.

The predominant focus of research studies at the end of the 1970s was on the links between school and society. In the 1980s, linking education with productive work is expected to be in the forefront.

8. Major Problems

The documents on the reform of education list a wide range of problems together with suggested solutions. Among these, some are strongly emphasized, such as:

- how to plan the interaction between education and productive work, with an emphasis on the educational component of creative work;
- how to deepen the processes of the democratization of education and to develop further the self-management system by linking education more strongly with the world of work and with community development;
- how to establish a system of lifelong education, with inservice education and self-education as important components;
- how (i) to develop educational programmes with an emphasis on contemporary science and the needs of work in a long-term perspective; (ii) to introduce modern methods and techniques into education; and (iii) to develop an efficient evaluation system of educational achievement;
- how to bring traditional educational institutions into fruitful cooperation with the new at all levels.

The general goal of all of these efforts is to provide the strongest possible support for the acquisition of knowledge and skills, which—if linked with social and cultural goals and the roots of the country—will represent the main prospect for development for the people of Yugoslavia.

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Zaire

B. Abemba

Zaire, formerly the Democratic Republic of the Congo, covers most of the river basin of the River Zaire. The climate is equatorial and tropical and varies according to altitude.

The occupation of the country in the late nineteenth century by Belgium was slow and gradual. At first, colonialization followed the waterways, which were the only communication routes at that time. The first schools were therefore built along the River Zaire and its main tributaries, and on the shores of the lakes.

Since 1960, the population of Zaire has passed through two stages of development. Between 1960 and 1970, it increased from about 14 million to just over 21 million, an increase of 50 percent in 10 years. The second stage runs from 1970 to 1980. During this period, contrary to expectations, the earlier growth rate was not maintained. In 1975, the population was no more than 23 million, and in 1980 it was estimated to be about 24 million (Vanderlinden et al. 1981).

Since 1960, the most important demographic feature has been migration from rural to urban areas as a result of the collapse of the colonial administrative structures which were designed to restrict such movement. The population of Kinshasa, the capital, has increased five times (an annual growth rate of 25 percent), and all the other principal towns have been similarly affected. Zaire has about six million town-dwellers. Kinshasa has more than 25 percent of the urban population, followed by Shaba (10 percent), Western Kasai (10 percent), and Upper-Zaire (10 percent) (Vanderlinden et al. 1981). In addition, more than 50 percent of the population consists of young people.

The four main languages of Zaire are Kikongo, Lingala, Tshiluba, and Swahili. Kikongo is used in the regions of Lower-Zaire and Bandundu; Lingala in the capital, the Equator region, and in part of Upper-Zaire; Tshiluba in the two Kasai regions; and Swahili in Kivu, Shaba, and in parts of Upper-Zaire.

Under the Belgians, the educational system was poorly developed, with the result that middle and senior posts in public administration and the productive sector were filled exclusively by Europeans. Consequently, although an African lower-middle class began to emerge and develop before 1960, there was relatively little social stratification of the population. After decolonization, however, an African elite class emerged and with the decline of the economy the privileged position of this class, especially in comparison with that of the peasants and workers, became more marked.

The economic crisis in Zaire coincided with the world economic crisis of the 1970s. There were also internal causes: corruption, lack of planning, and destruction of small and medium-sized businesses as a result of the policy of Zairification carried out in 1973.

Only a small proportion of the active population of

Zaire is in paid employment. In Kinshasa, unemployment stands at more than 40 percent of the male population aged over 18, at Mbuji-Mayi and Kananga it is 80 percent, and at Kisangani, 72 percent (Vanderlinden et al. 1981). Many of these unemployed are young people who have received primary, secondary, or higher education. The "Mobuto Plan" for economic recovery (1979-81) made education one of its priorities, but in reality did little except to revitalize the existing structures.

The economic development of Zaire is closely dependent on mining, which produces 75 percent of its foreign earnings and 80 percent of its tax receipts. Mining is concentrated mainly in the Shaba region. In 1960, its contribution was 0.08 percent of the gross national product (GNP) and in 1973, 18 percent. Agriculture represented about one-third of GNP in 1960 but only 12 percent in 1973. The manufacturing industry contributed 0.13 percent in 1960 and 0.08 percent in 1973. Commerce and public service contributed 14 percent and 13 percent respectively in 1960 and 15 percent and 11 percent in 1973 (World Bank 1976).

Before 1960, Zaire experienced the same problems as other underdeveloped countries with regard to exports. In about 1959, mining accounted for 60 percent of export earnings and agriculture, 40 percent. After 1960, copper became the main mineral export and there was a decline in agricultural exports. (Zaire began to import agricultural products which it had previously exported.) The economy became vulnerable as a result of the unstable world minerals market and even the increase in the price of certain products (e.g., coffee) was insufficient to offset the overall decrease in export receipts.

Zaire has experienced two very different stages in its political development since 1960. The first stage (1960-65) was characterized by a highly decentralized, even semifederal, regime. The second dates from the 1965 military coup, which brought back centralized government. In 1967, a single-party system was introduced and in 1974 the constitution was revised and all power was placed in the hands of one person, the president of the single party (the *Mouvement Populaire de la Révolution*—MPR: People's Revolutionary Movement).

1. Structure and Size of the Education Effort

Under Belgian rule, the emphasis was on primary education to the detriment of the secondary and higher sectors. The underlying philosophy was that of providing basic instruction rather than complete education. Secondary education was restricted mainly to technical and vocational studies. The first schools were "agricultural and industrial". Subsequently, the Roman Catholic Church was made responsible for most aspects

of education, under the terms of the 1906 agreement between the Vatican and the Independent State of the Congo.

Independence brought about both a transformation of the education system and a great increase in enrolment. The number receiving primary education increased from 1.6 million to 3.2 million. From 1965 to 1970, the average annual growth rate was 8.1 percent. By 1982, 60 percent of children of primary-school age are enrolled in primary schools.

Secondary education followed a parallel path. In 1960, there were 25,000 pupils and in 1971, 266,000—an average annual increase of 18 percent. At the higher level, enrolment increased from about 500 to 15,000 during the same period. In 1960, 20 students graduated, and in 1972, more than 8,000.

It should not, however, be concluded from these figures that the education policy of the Zaire government was a success. At the end of the 1970s, 40 percent of children of primary-school age did not attend school, and of the 60 percent who started school only a quarter completed the course and less than half of these went on to secondary school. The dropout rate is less at secondary level, but only 13 percent of boys and 3 percent of girls receive secondary education. In 1972, only 30 percent of the 12,000 pupils who completed secondary studies were admitted to higher education, and the gap between the supply of, and demand for, places continues to grow. Finally, at the higher level, in the 1970s, there were three times as many national university-faculty members as there were foreign faculty members in 1960, while the net national income has increased by only 30 percent.

All the above applies to formal education. Nonformal education does not receive the same attention from the authorities. The country has not adequately developed structures for recuperating those rejected by the formal system. Progress in this area (technical and vocational apprenticeship schemes) is largely the result of private initiative.

The most spectacular project initiated by the state has been the creation of the Interdisciplinary Centre for Development and Lifelong Education (CIDEP). The centre took over responsibility for all the various projects which had previously been responsible for either the retraining of civil servants (both those who had and those who had not completed their secondary education) or completely new general technical training. When it was set up, CIDEP was given the status of a university institution within the National University of Zaire. It was to form a link between the university and society. It was still expected to retrain civil servants and to organize general training, but the innovation lay in the fact that it was authorized to organize formal training (commercial, political, social sciences, etc.) for those already working. The courses were equivalent to the first cycle of university studies. Success in this field was spectacular, but under the terms of the university reform of 1981 responsibility for these courses was taken away from CIDEP.

2. Finance

As in most developing countries, education in Zaire is financed from three sources: the state, international aid, and the users (parents). The state is responsible for teachers' salaries and running expenses. Investment and equipment expenses are largely covered by government or private international aid.

Between 1968 and 1975, ordinary expenditure, financed by the government and by external aid, increased in real terms by between 1.32 and 1.45 percent. Compared with other public sectors, education received a little over 20 percent of the national budget during 1968–76. The average annual rate of increase in current expenditure was double that of state expenditure as a whole (1970–75). It represented one-fifth of the expenditure of the Ministry of Finance, and less than one-eighth of that of the Ministry of Public Works (Institut de Recherches Economique et Sociales 1977).

Table 1

Current expenditure on state education, 1968–76 (in millions of Zaires)^a

Year	From internal money		From external money		Total	
	Current costs	At 1970 costs	Current costs	At 1970 costs	Current costs	At 1970 costs
1968	25.7	—	15.7	—	41.4	—
1969	46.5	—	15.3	—	61.8	—
1970	52.1	52.10	14.7	14.70	66.8	66.8
1971	62.8	61.79	18.0	17.71	80.8	79.65
1972	64.1	56.58	25.0	22.07	89.1	78.65
1973	75.1	50.13	32.0	21.36	107.1	71.49
1974	84.6	48.29	37.2	21.22	121.8	69.51
1975	109.5	62.16	45.4 ^b	25.77 ^b	154.9	87.93
1976	136.9 ^b	69.14	55.4 ^b	27.98 ^b	192.3 ^b	97.12

^a Source: Bank of Zaire. *Annual Reports* ^b Estimate

Table 2
Percentage distribution of state budget to various sectors^a

Year	National defence	National education	Public works	Public health	Transport and telecommunications
1969	12.0	21.8	1.9	3.9	1.3
1970	14.4	19.7	1.5	2.5	1.0
1971	13.6	22.5	1.8	1.9	1.1
1972	12.4	22.6	6.4	3.5	1.1
1973	10.0	21.7	4.9	3.2	1.1
1974	13.9	15.5	4.4	2.6	1.1
1975	13.1	21.4	4.8	1.6	1.9
1976 ^b	13.6	23.0	7.7	1.8	—

a Source. Bank of Zaire. *Annual Reports* b Estimates

At the primary level 45.8 percent of expenditure was on running costs between 1968 and 1971. The figure was 33.1 percent at the secondary level and 18.6 percent at the higher level (Institut de Recherches Economiques et Sociales 1977).

It is true that, nominally, the share of the national budget allocated to education has increased faster than both the budget itself and the quotas allocated to other sectors of the economy. In real terms, however, this increase is not sufficient to keep up with the growing demand for education at all levels of the system. Between 1968 and 1975, the capital expenditure allowed to education represented on average only 1.79 percent of the total per year, but, in comparison with GNP, the cost of education is an increasing burden. Internal resources from the government financed current expenditure on education to the extent of 4.2 percent in 1968, increasing to more than 12 percent in 1977 (Institut de Recherches Economiques et Sociales 1977).

Officially, 80 percent of current expenditure on education goes on teachers' salaries as a result of the great increase in the number of teachers. It seems that both expenditure and numbers have been deliberately exaggerated. Investigations ordered by the government between 1979 and 1982 showed regularly that the real numbers, both of classes and teachers, were significantly lower than those presented annually in the official statistics. Tables 1 and 2 show the increase in expenditure on national education between 1968 and 1976 and its position relative to expenditure on other sectors.

3. Administration

There were two main events of importance in the administration of education after independence. First, in 1973, the educational system was nationalized. Schools run by the churches, mainly Roman Catholic, Protestant, and Kimbanguist, were placed under direct state control. This reform did not last long, as in 1976 the religious networks were reinstated to form what are now known as "officially recognized schools".

Nevertheless, education is considered to be a state

responsibility in Zaire and two ministerial departments are in charge of it: the Department of Primary and Secondary Education and that of Higher and University Education.

Nursery schools are mostly private and are attended only by a few privileged children in urban areas. Nevertheless, the state controls their curricula, the number of children in each class, and the qualifications of teachers.

Primary and secondary schools are administered by the state and the churches. Those managed directly by the state are called state schools and those run by the churches are called "officially recognized schools". The latter may be Roman Catholic, Protestant, Kimbanguist, or Islamic. Under the terms of the 1976 agreement between the state and the churches, the churches collaborate closely with the state authorities to ensure that the education they provide conforms to the guidelines laid down by the government.

In 1971, a single university was formed to replace three former universities: the Lovanium University, the oldest, which belonged to the Roman Catholic Church and was considered to be the younger sister of the Catholic University of Louvain; the Official University of the Congo, situated at Lubumbashi and run by the state, but dominated ideologically by the Belgian universities of Liège and Brussels; and finally the Free University of the Congo, the youngest of the three and run by the Protestant churches. The 1971 reform was superseded in 1981, when, under a new reform, the three campuses which, together with the Higher Technical and Pedagogical Institute, formed the National University of Zaire, became autonomous universities.

4. Recruitment of Teachers and Teacher Training

In theory, primary- and secondary-school teachers are trained by the higher technical and pedagogical institutes, which were set up for that purpose.

However, the real situation is quite different. Specialists trained by the higher institutes sometimes fail to find teaching jobs or may be employed in schools for posts for which they have not been trained. At the same

time, people with no teaching qualifications may be employed as teachers. The underlying reason for this is to be found in the present structure of the employment market and of the economy of Zaire. Since 1960, the teaching profession has lost much of its social and material prestige. Consequently, the best candidates seek more rewarding jobs elsewhere. However, teaching remains, despite everything, one of the few sectors in which hundreds of jobs are created each year. It offers "stopgap" employment: teachers can continue to work and earn money while waiting for a better job. In Zaire, there is considerable mobility within the teaching profession and it is therefore one of the most unstable professions in the country.

Between 1965 and 1975, the total number of primary-school teachers increased by 28,594: from 51,895 to 80,489, which is an increase of 55 percent (Mulier Vandamme and Mulier 1977). A distinction is made between certified (C) teachers (with six years of primary education), those with the certificate of the school of teacher training (EAP), and those with a diploma. This last group is further divided into those with a three-year diploma (D.3), those with a four-year diploma (D.4), those who have done 4, 5, or 6 postprimary years (PP.4, PP.5, PP.6), and those who have received the state diploma (acknowledging success in secondary education: D.6). Table 3 shows the distribution and evolution of teaching personnel according to level of qualification. Two points may be deduced from it: first, no increase, and even a noticeable reduction, has taken place in the number of certified teachers (C, EAP, PP.1, PP.2), all of whom can be considered unqualified; second, the number of theoretically qualified teachers holding a diploma is increasing. In fact, properly qualified primary-school teachers, those with the six-year diploma (D.6), constituted only 3.3 percent of the total in 1972-73.

Retraining and advanced training of primary-school teachers takes place at the Institute for the Training of Primary School Personnel (IFCEP) at Kisangani. This institute is run with the assistance of UNESCO. It organizes one- and two-year courses for inspectors, head-

teachers, and teachers. However, its success is limited by the fact that there is only one such institute for the whole country and that attendance on such courses does not lead to any salary increase nor to improved promotion prospects.

5. Assessment and Promotion

At the preschool level, children are judged on the basis of their ability to carry out certain everyday tasks, which are presented to them in the form of games. Performance is evaluated every three months, and the character of the child is assessed every two weeks.

At the elementary stage of primary school, progress is assessed each month on the basis of classwork and homework. In the middle stage, assessment is on the basis of examinations held each month and at the end of the year, while at the final stage examinations are held every three months and at the end of the year.

In secondary school, candidates are assessed on the basis of classwork, homework, periodic oral tests, end-of-semester tests, end-of-year tests, and state examinations. It should be noted that in all schools the state examinations form the final secondary examinations.

In higher and university-level education, students must obtain a certificate at the end of each year entitling them to proceed to the next year. Certificates are awarded on the basis of written and practical work throughout the course and on the final written examinations, which can also include practical and oral examinations.

The board of examiners bases its judgment on the total marks (maximum 20). The written tests and practical coursework count for 10 of the 20 points and the final examination for 10 points.

6. Educational Research

In 1982, all research was in a state of crisis, including educational research. This is, first, because the structure responsible for research, the Institute of Scientific Research (IRS), formerly the National Office of

Table 3
Numbers of teachers by type of qualification, 1965-73^a

Year	Certified (C)	Teacher-training (EAP) certificate	Diploma (D)	Unknown	Total
1965-66	21,895	16,750	12,868	382	51,895
1966-67	24,366	15,635	13,275	—	53,276
1967-68	26,791	16,084	14,561	—	57,436
1968-69	22,472	15,758	22,197	171	60,598
1969-70	21,263	15,141	23,392	3,351	63,147
1970-71	21,428	15,568	27,446	2,650	67,092
1971-72	22,108	15,794	31,845	415	70,162
1972-73	21,468	16,992	36,540	2,686	77,686
1973-74		37,340	43,149	—	80,489

^a Source: Mulier Vandamme and Mulier 1977 p. 71

Research and Development (ONRD), is inadequate and bureaucratic.

In reality, there is no overall research strategy. The most significant and interesting work in education is done by private individuals working alone, since the absence of a global plan makes it difficult to link research to the needs and realities of society.

Each educational institute (teacher-training establishment) has a centre for educational research, like the centre for applied educational research (CRPA) at the National Pedagogical Institute (IPN). Above all, there is the Centre for Interdisciplinary Research for the Development of Education (CRIDE) at the University of Kisangani, which was founded in 1972. It has received grants from many sources abroad, including the Ford and Rockefeller Foundations, the Belgian and German governments, and the Research Centre for International Development (CRDI). The centre's task is to carry out applied interdisciplinary research in the field of education in Zaire. For it to succeed, it was necessary from the start to promote its links with the government, from which it hoped to receive directions, guidelines, and even orders for studies. In 1973, it was formally invited to collaborate in preparing plans to reform education in Zaire. However, this collaboration lasted only a few months. Since then, CRIDE has returned to more limited studies, which have no obvious link with the aspirations of society.

7. Major Problems

Zaire has not yet succeeded in solving the problems which have arisen as a result of the spectacular development of its educational system since independence. These problems have even become worse. The main problem is the massive increase in numbers and the strain which this places on the national budget. It can be shown that the gap between supply and demand will continue to grow in the future. The dilemma is that the growth in numbers seeking education cannot be halted (at the most it may be slowed down, but this involves

long-term global planning). On the other hand, the national economy is unable to increase constantly its educational expenditure.

Many other problems stem from this phenomenon. First, there is an imbalance between the various levels: in 1974-75, 90 percent of students were at the primary level and the higher level accounted for barely 1 percent (Mulier Vandamme and Mulier 1977). Second, teachers are underqualified, resulting both from the fall in the level of education and from the lack of retraining and advanced training. The third problem is not peculiar to Zaire, but faces all new nations and even developed countries. It is the inadequacy of curricula and teaching methods, which in turn are associated with inadequate teaching. The imbalance in geographical distribution is also a problem which cannot be ignored. It is not only a case of imbalance from one region to another—although this exists and is a result of the colonial history of the country—but also of imbalance between urban and rural areas.

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Zambia

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The Republic of Zambia is a landlocked nation bordered by eight other countries in south-central Africa. To the north are Zaire and Tanzania, to the east Malawi and Mozambique, to the south Zimbabwe, Botswana, and Namibia, and to the west Angola. Zambia's 752,614 square kilometers (290,584 square miles) of territory form a lengthy plateau in the central, southern, and western regions, rising to mountains in the north.

About 40.9 percent of the country's population of 5,679,808 (1980 census data) live in urban settings. The indigenous peoples, increasing in number at the

relatively rapid rate of 3.2 percent annually, represent over 72 language groups—all of the Bantu language family. So that no one indigenous language group is favored at the national level, the government has retained English from the colonial period as the official, neutral, language.

Prior to gaining independence in 1964, Zambia was called Northern Rhodesia and was ruled under British colonial administrators. In 1924, they had replaced Cecil Rhodes' British South Africa Company, which had controlled the region since 1890. In 1953, Northern

Rhodesia was joined with Southern Rhodesia (now Zimbabwe) and Nyasaland (now Malawi) to form the Federation of Rhodesia and Nyasaland, a union dissolved in 1963. In the 1964 Zambian elections, the United Independence Party (UNIP) won control of the government and remained in power thereafter, securing its position in 1972 by declaring Zambia a one-party state.

The economy of the nation is based chiefly on minerals, particularly copper, which exists along with other minerals in large quantities. Not all of the nation's mineral deposits have been tapped because exploration and extraction work has been retarded by economic problems brought on mainly by falling copper prices on the world market. The economic downturn affected education by limiting the funds the government could allocate for expanding the school system.

1. Educational Background

Zambia's educational system has evolved through a series of phases since precolonial times. Before the arrival of Western colonists, education was predominantly informal and practical. The young learned to function effectively by participating in daily family life, with the content of education differing somewhat from one tribe to another depending upon the environment and culture of the group.

Western education was introduced in the second half of the nineteenth century by European missionaries, who opened the first mission station in 1882. By the early 1900s, many mission stations, operated by various Christian denominations, conducted schools, which were often unstable because of lack of interest among potential students, a shortage of qualified teachers, and a lack of support from the British South African Company, which administered the territory. The curriculum in mission schools consisted of religious doctrine, the alphabet, some arithmetic, and hygiene. Despite their difficulties, the schools grew so that by 1923 an estimated 25 percent of the 200,000 African children of school age were enrolled in some type of school (Mwanakatwe 1968).

After the United Kingdom took control in 1924, an evaluation commission aided by the General Mission conference recommended that the administration increase expenditures for education by giving grants to missions. As a consequence, enrollments increased and some teachers received training. However, most schools offered only a two-year primary program, which was insufficient to make pupils literate. The missionary schools, however, were successful to a certain degree; this is reflected in the fact that 80 percent of the present-day Zambian population are Christians.

During the early years of United Kingdom rule, only 2.5 percent of the government budget was spent on education for Africans, whereas a substantial amount was spent on schooling for Europeans in order to encourage them to settle in the territory. However,

by the end of the colonial period, African primary education had improved considerably so that by 1963 there were 342,105 pupils enrolled compared with 50,000 in 1923 (Mwanakatwe 1968, Sanyal et al. 1976).

Although the first primary school opened in 1882, not until 1938 was the first secondary school, Munali, established. In 1950, when 141,551 African pupils were in primary schools, only 337 attended secondary school, a ratio of one secondary place for every 350 primary places (Sanyal et al. 1976). The slow development of secondary schools for Africans was due to the authorities giving first priority to white children in order to prevent the creation of a poor white community. As Coombe (1967) has observed, the response of the white population to the prospect of advanced education for Africans ranged from hostility and suspicion to enthusiasm. But, by the close of the colonial period, opportunities for Africans had improved. In 1973, more than 6,400 Africans attended secondary schools.

Technical education for Africans began rather early, since few Europeans were interested in manual work. The first training institute controlled by the government was started in 1930, eight years before the establishment of the first secondary school, and most primary schools had programs offering technical courses. By 1957, there were 21 junior trade schools, 11 of which were controlled by missions and 10 by local authorities.

During the 1930s, teacher-training opportunities increased, with the number of institutions preparing primary-school teachers growing from 2 in 1926 to 13 in 1939. By 1963, high-school graduates with an average pass in their examinations were trained for upper-primary teaching, and those with a two-year junior-secondary-school pass were prepared to teach in middle and lower-primary grades. All teacher-training courses lasted two years.

2. System of Education Since Independence

Upon attaining political independence, Zambia faced a serious problem of staffing the nation's government and business enterprises with citizens of the country. Not only was the number of Zambians who had completed secondary education (1,200) and university (100) rather small, but a significant proportion of foreigners who had held key administrative and technical positions left Zambia (Mwanakatwe 1968, Sanyal et al. 1976). Furthermore, the new nation's facilities for preparing the personnel required were limited. For example, Zambia had no university of its own. As a result, the country had to depend on expatriates who might be attracted by good salaries and other benefits. At the same time, there was an urgent need to train Zambians to take over the positions occupied by expatriates.

Furthermore, the new government pledged itself to provide free, universal primary schooling according to the philosophy that all Zambians deserve the opportunity to achieve their individual potential. "The education of an individual is the ideal way in which he can

Table 1
Schools, teachers, and students, 1982

School type	No. of schools	No. of teachers	No. of students
Primary	2,894	23,870	1,121,769
Secondary	142	4,602	104,859
Trades and technical	14	n.a.	3,343
Teacher training	14	406 ^a	4,485 ^a
University	1	334 ^a	4,088

a 1981 statistics

prove his worth" (Kaunda 1973). UNESCO experts had set as a proper target the enrollment of 71 percent of school-age children in primary grades by 1971, which Zambia surpassed. At the secondary-school level, the nation's rate of increase in enrollment proved to be one of the fastest in Africa, as old schools were expanded and new ones built in areas that formerly had none. Table 1 shows 1982 enrollments at different levels of education.

The University of Zambia was opened in Lusaka in 1966 with three academic specializations, which have since grown to eight. Among its programs, the university offers diplomas for teachers in several fields and provides correspondence courses and inservice training for primary-school teachers. The School of Education conducts a four-year program for students preparing to be secondary-school teachers in arts or science subjects.

The country's two secondary-teachers' colleges offer a two-year course for junior-secondary-school teachers. The Natural Resources College conducts a three-year program in agricultural education for secondary-school teachers.

Average age	Year of school	Type of school			
24	7	University of Zambia	Teacher-training colleges	Technical colleges	Other
23	16				
22	15				
21	14				
20	13				
19		Zambia National Service			
18	12	Senior secondary		Teacher training, vocational training, Zambia Enrolled Nursing	
17	11				
16	10	Junior secondary		Vocational training, e.g., bricklaying, woodwork, home crafts	
15	9				
14	8				
13	7				
12	6				
11	5	Primary school			
10	4				
9	3				
8	2				
7	1				
6		Kindergarten, nursery school			
5					

Figure 1
Structure of the educational system

Since independence, technical education has also been expanded, so that almost every town in the country has a trade school. And several colleges offer a variety of courses to form 5 school leavers as well as to junior-secondary leavers.

The structure of the Zambian school system in the early 1980s consists of kindergarten or nursery schools, a seven-year primary school, and a five-year secondary-school sequence divided into three years of junior-secondary and two years of senior-secondary studies. The secondary level is followed by higher education institutions of several types (see Fig. 1).

The primary school is subdivided into four lower-primary grades and three upper-primary grades. The official school-starting age is 6 or 7 years, although some children start earlier. Some parents also send their children to kindergarten prior to entering primary school. However, because parents must pay fees for kindergarten attendance, the number of children enrolled is not large.

3. Curricula and Examinations

Curriculum development is the responsibility of the Ministry of Education, which employs experts in different subject fields to devise courses of study. The curriculum at the primary-school level consists of the basic skills of literacy and arithmetic and social studies, nature study, and character formation. The secondary-school curriculum is composed chiefly of more advanced studies in the same subject fields as those of the primary school, plus agricultural science and such vocational skills as typing and home crafts.

Officially, children's promotion from one grade to the next is based on teachers' assessments of the pupils' achievement; however, in practice, promotion is essentially automatic. Each child moves ahead, whatever his or her level of performance.

In contrast, promotion from one school level to the next is based mainly on pupils' performance in highly competitive national examinations. This testing is done at the close of the seven-year primary school, the three-year junior-secondary school, and the two-year senior-secondary program. The examinations at the close of the primary and junior-secondary levels are prepared by the Ministry of Education, whereas the examination at the end of the senior-secondary school is prepared by the Cambridge Overseas Syndicate in England. Plans have been laid to prepare this final examination in the Ministry of Education as well.

4. Educational Personnel

One of the most serious personnel problems in the school system has been the exodus of teachers from the profession because of the poor conditions of service as compared with conditions in other occupations. Furthermore, promotion within the ranks of teachers has been slow because of the large number of existing

teachers in the schools. At the beginning of the 1980s, the Ministry of Education, which is in charge of all of the nation's teachers, raised teachers' salaries and provided such side benefits as better housing in an effort to encourage more able teachers to remain in the profession.

5. Educational Research

Most educational research conducted within the Ministry of Education is under the Educational Services Center, which is in charge of curriculum development and the construction of tests for the examination at the close of primary school. Research is also carried out in such units of the University of Zambia as the Institute for African Studies and the Educational Research Bureau. A continuing program of educational investigations is also conducted by the School of Education.

6. Major Problems

Principal problems facing the nation's educators include those of placing primary-school graduates, of expanding literacy, and of financing educational development.

Only about one-third of primary-school leavers attain places in secondary schools, thus leaving the remaining two-thirds to search for jobs. However, this majority of school leavers encounter great difficulty finding employment, partly because the academic studies of the primary school have failed to prepare them with useful work skills and partly because they are too young to perform tasks requiring physical strength and greater maturity. In an effort to solve this problem of unemployed school leavers, the Ministry of Education has proposed a reformation of the schooling sequence whereby all children will complete nine years of formal basic education, after which some will enter senior-secondary school for general academic studies and others will either enroll in technical studies or directly enter the labor market.

Much remains to be done in the field of literacy. According to 1979 estimates, only 35 percent of the nation's adults were literate. Although the government has sponsored literacy programs, the results of these efforts have been judged less than satisfactory, since

two-thirds of the participants were women and the dropout rate was high. Thus, a large portion of the male population was not reached, and too many learners left the program before they gained a secure command of reading, writing, and arithmetic. As a result, more effective measures to bring the entire population to an acceptable level of literacy are needed.

Efforts to extend schooling opportunities to a greater proportion of the population and to improve the quality of instruction and the training of personnel have been slowed by economic problems. In 1979, the government spent 13 percent of its budget on education, but only 8 percent in 1982. This has resulted in the introduction of private schools, especially at the secondary level. With the continuing low prices for copper on the world market, education expenditure is likely to continue falling. Furthermore, with wars of independence still being waged in some parts of southern Africa, Zambia continues to care for refugees entering the country from neighbouring regions. As a consequence, while progress in education could be expected to continue in the future, economic and social difficulties placed limits on the rate of progress that might be expected.

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Zimbabwe

N. D. Atkinson

The Republic of Zimbabwe, formerly the self-governing Colony of Southern Rhodesia, is a land-locked, tropical country in southern Africa. It achieved independence from the United Kingdom in 1980 after nearly two decades of political struggle, involving economic sanctions and a destructive guerrilla war.

National wealth is derived partly from agriculture (there is an extensive and well-developed commercial farming sector), partly from manufacturing, and partly from the exploitation of extensive mineral resources, including coal but not oil. There is a well-developed infrastructure, dependent on a relatively wide range of

human resources. So far economic development has been largely confined to the urban areas and to those parts of the countryside affected by European settlement. Other areas are inhabited by traditional pastoral communities, which are often desperately short of land.

The population, estimated at 7,600,000 in 1982, is growing at a rate of nearly 3.5 percent annually. Indigenous peoples comprise nearly 97 percent of the total, the largest group being the Shona people and the next largest the Ndebele. There are small European, Asian, and coloured communities. About one-fifth of the population lives in towns.

The school year runs from late January to early December. English is the official language and the prescribed teaching medium. Use of a non-English vernacular is permitted only during the early primary-school stage. At least one of the two main African languages must be taught in all government schools.

The government is headed (1984) by R. Mugabe, whose ZANU(PF) Party won an overwhelming victory in the British-supervised elections of 1980 and in the first post-independence elections of 1985, and is committed to Marxist socialist policies in education and other aspects of national life.

1. General Structure and Size of the Education Effort

The earliest schools in Zimbabwe were founded by missionaries towards the end of the nineteenth century with the purpose of establishing Christianity among the indigenous population. The first two government schools for Africans, founded in 1920, were intended to foster ideals of community development by providing training in rural crafts. This policy was supported by the United States-funded Phelps-Stokes Commission in 1924 and the Hadfield Commission in 1927 and received considerable impetus with the appointment of the first director of native education, H. Jowitt, two years later. Under Jowitt's direction, a team of agricultural demonstrators and itinerant school supervisors were deployed to raise standards in practical subjects among rural communities.

Further steps in the policy of community development, representing an official interpretation of recommendations made by the Kerr Commission in 1952 and the Judges Commission in 1962, were contained in a government "Plan for Education", published in 1966. Under the terms of the plan, local African communities were required to undertake a substantial share of responsibility for the provision of schools, an arrangement which aroused widespread anxiety on the grounds that local authorities had not yet acquired adequate resources of finance and administrative expertise. Another part of the plan involved the creation of a new type of junior-secondary school for African pupils, with a curriculum intended to meet employment needs in particular local communities. Once again there was

widespread criticism, less on grounds of principle than because of the scarcity of suitable employment opportunities, the lack of places in academic secondary schools for qualified African youngsters, and the fact that junior-secondary-type education was not being provided for European pupils (virtually all of whom had the opportunity to undertake academic secondary schooling).

Government schools for European, Asian, and coloured pupils acquired a distinctive character after the grant of internal self-government to Southern Rhodesia in 1923, when there was a movement away from South African educational practice towards increasingly close relations with the educational system of England and Wales. One reason was apparently the desire among white parents to provide their children with educational opportunities comparable to those available in the United Kingdom. Another factor was apparently the belief of white rulers that the circumstances of a rapidly developing country called for greater capability for innovation and critical thinking than was necessary in the more stabilized conditions of South Africa.

The importance of developing secondary education was emphasized by a commission headed by the Australian educationalist, Sir Frank Tate, in 1928. Though the Southern Rhodesian Government did not adopt Tate's suggestion of countrywide correspondence tuition, it embarked on an extensive programme for the establishment of boarding schools. Legislation for compulsory attendance by European children was passed in 1931 and extended to Asian and coloured children in 1938. Compulsion was eventually withdrawn by the Education Act of 1979.

Recommendations of the Fox Report in 1936 called for the replacement of South African public examinations, then still taken in the territory, by examinations conducted by the United Kingdom Boards. Legislation which carried these recommendations into effect during 1938, together with a further series of adaptations to English examining practice during the years which followed, had effect in making Zimbabwe the only country in southern Africa with a six-year secondary-school programme, including two years of specialized studies on the British model. A small number of academic secondary schools for Africans was established by government and missions during the years which followed the Second World War.

The availability of these facilities gave a special character to the University College of Rhodesia and Nyasaland (now the University of Zimbabwe) which was founded in 1957 as part of the project for a Central African Federation. The University College differed from other tertiary institutions in southern Africa through its relatively high entrance qualifications (two good passes in Advanced-level examinations), specialist undergraduate programmes, and emphasis on post-graduate research. Moreover, the terms of its royal charter, prohibiting racial discrimination in the selection of staff or students, constituted the first main departure

from the practice of segregating educational institutions in the country on lines of race. The prohibition was retained in the *University of Zimbabwe Act*, which replaced the royal charter as the constitutional authority of the university, 1983.

A further attempt at desegregation was initiated by the European independent schools by means of a bursary scheme for African pupils introduced in 1963. The extent of the scheme was reduced through restrictions imposed by the Rhodesian Front administration. Resentment of social injustice grew sharply among the African majority during the period following the Rhodesian Front's Declaration of Independence in 1965, which was marked by the introduction of regulations to prohibit virtually all contact between schools for different racial groups. The end of racial segregation came eventually as the result of political pressures, culminating in the liberation war, the internal settlement of 1978, and the Lancaster House Agreement of 1979.

Table 1
Primary- and secondary-school enrolment 1959-83

Year	Former African Division		Former European, Asian, and Coloured Division	
	Primary schools	Secondary schools	Primary schools	Secondary schools
1959	449,906	3,000	38,688	17,450
1960	484,299	4,139	39,525	18,754
1961	525,423	5,069	39,116	20,328
1962	560,356	5,972	38,605	21,584
1963	590,795	7,045	38,918	21,856
1964	610,268	8,846	36,780	21,989
1965	627,800	11,495	37,220	22,363
1966	646,709	13,587	37,378	23,296
1967	664,706	15,640	37,796	24,011
1968	684,430	17,227	38,699	24,844
1969	679,555	14,578	39,134	25,444
1970	671,457	23,418	39,725	26,132
1971	639,043	26,077	40,094	26,839
1972	695,432	29,012	41,087	28,075
1973	733,562	31,484	41,212	29,036
1974	776,963	33,690	40,250	29,340
1975	810,908	37,462	39,613	29,448
1976	829,235	40,686	37,897	28,451
1977	839,079	44,031	36,129	26,959
1978	776,256	45,212	34,735	25,999

Combined Ministry ^a		
	Primary schools	Secondary schools
1979	819,556	66,215
1980	1,235,994	24,321
1981	1,715,169	148,690
1982	1,907,225	227,647
1983	2,044,487	316,438

^a The two former divisions of the Ministry of Education were combined in 1978

During 1978, the African and the European, Asian, and Coloured Divisions of the Ministry of Education were fused in a single administrative structure. An Education Act, passed early in 1979, provided for the reorganization of the existing school system on nonracial lines. Among various arrangements, it was laid down that former European government schools would continue to be "zoned" to particular localities and would charge fees. Private schools were assured of government financial support.

The main thrust of postindependence educational policy under the Mugabe administration has been directed into an immediate expansion of formal school facilities, particularly in rural areas and at the secondary level (see Table 1). Whereas, in 1980, there were about 17,000 entrants to the first year of secondary schooling, the number rose to 80,000 in 1981. To achieve this expansion two strategies have been adopted. Firstly, existing secondary schools have been encouraged to broaden their first-year intake, several urban schools having as many as 18 form 1 classes. Secondly, so-called "upper top" classes have been added to nearly 500 primary schools, these being seen as the nuclei of future secondary schools. The total school-going population has increased from 1,310,315 in 1980 to 2,360,925 in 1983. Fees were abolished for primary schooling in 1980, and it is the government's intention to abolish them at the secondary level as soon as practicable.

These policies, aimed at the more equitable distribution of educational opportunities, have inescapably involved a massive increase in public expenditure on education, which rose from Z\$89,967,000 (or 9 percent of the national budget) in 1978 to Z\$414,100,000 (or 16 percent of the national budget) in 1983. There is also a substantial investment in education by the churches and other nongovernment agencies, and most of the cost of replacing schools destroyed in the war has devolved on rural local communities. International aid agencies have provided considerable support in the form of finance, learning materials, and the short-term secondment of teachers and specialists.

2. Supply of Personnel

Though the numbers of primary and secondary teachers has increased from 26,243 in 1978 to 42,886 in 1981 (see Table 2), many more are needed to meet the demands of the expanding school system. Moreover, there has been a loss of many more experienced teachers through emigration or into other career opportunities created since independence and a substantial reduction in the proportion of teachers with standard qualifications.

Long-established machinery for the supervision of colleges for the education of primary and secondary teachers exists through a scheme of special relationship between these colleges and the University of Zimbabwe's Associate College Centre. There are indications that the number of associated colleges, six in 1981, is likely to rise dramatically during coming years,

Table 2

Teachers employed in primary and secondary schools 1959-83

Year	Teachers	Year	Teachers
1959	14,884 ^a	1972	21,725
1960	15,934 ^a	1973	23,004
1961	17,243	1974	24,541
1962	17,805	1975	25,661
1963	18,993	1976	26,450
1964	20,130	1977	26,983
1965	21,307	1978	26,243
1966	22,130	1979	22,017
1967	20,329	1980	31,898
1968	20,982	1981	42,886
1969	21,548	1982	51,000
1970	21,132	1983	61,310
1971	20,918		

^a Estimated

partly through the developing of nonassociated missionary institutions and partly through new foundations by government. The Zimbabwe Integrated Teacher Education Course (ZINTEC), established during 1980 in regional centres, has the main objective of enabling serving untrained teachers to achieve certificated status.

University training for graduate teachers, previously offered on either a full-time or part-time basis, was reorganized from 1982 on an inservice basis, each student being required to undertake normal teaching duties in school. By means of the ZIM-SCI Programme, developed in the University of Zimbabwe's Department of Curriculum Studies, distance-teaching methods have been used to support science instruction in rural schools, where teachers may have relatively little scientific training. The university has also pioneered specialist professional training in areas of personnel need within the educational system, M.Ed. courses being offered in curriculum studies, educational psychology, educational administration, and educational foundations, and a more advanced M.Sc. course in educational psychology.

Specialist training in various aspects of nonformal education is provided in the University's Department of Adult Education. Courses for local-community leaders are provided at five regional training centres. There is a polytechnic in Harare and a college of technology in Bulawayo. An agreement between the governments of Zimbabwe and Cuba late in 1985 provides for the training of large numbers of teachers of scientific and technical students in Cuba.

3. Curriculum and Examinations

Programmes of "discovery learning" became popular in African primary schools during the 1960s under the direction of ministry officials. In 1974, the Lewis-Taylor report called for redesigning the primary-school curriculum under the general theme of the interdependence

of human beings and their environment. The report also recommended the establishment of an Educational Development Unit within the Ministry of Education. The unit was created shortly afterwards and cooperated with staff of the Science Education Centre in the design of an Environmental Studies Programme, intended to achieve the main objectives of the Lewis-Taylor report.

At the secondary level, ministry officials produced, during 1979, programmes for a new National Certificate of Education, intended to provide a qualification for pupils who are not academically talented. However, since independence a decision has been taken to abandon these proposals. Ordinary- and Advanced-level examinations are still conducted in Zimbabwe by United Kingdom Boards, though it is the ministry's intention to move towards the establishment of a local examining structure.

Since independence, government has encouraged programmes of "education for production", along lines developed in Tanzania, Mozambique, and other socialist countries. Every pupil will be required to study agriculture and to engage in some form of manual work, with the object of contributing towards the cost of running the school each attends. Several rehabilitation institutions have been established where excombatants are being trained in productive skills according to principles of socialism and self-reliance. New curriculum programmes, being prepared in the early 1980s, are intended to emphasize the collectivist attitudes of Marxist socialism and to discourage those of individualism.

4. Major Problems

In the 1980s and 1990s, educational planners in Zimbabwe will be required to achieve an effective balance between demands to expand facilities, so as to bring educational opportunities within reach of the entire population, and demands to ensure adequate reserves of higher personnel skills. Current government programmes to expand the formal school system are likely to encounter serious limitations of finance and teaching personnel for many years to come, and greater use may have to be made of distance-teaching approaches, particularly through radio. Thought will necessarily have to be given to the possibilities for differentiated secondary schooling and for the certification of non-academically talented pupils. There is also need for the development of wider facilities for the inservice support of teachers and for curriculum programmes to portray African and other cultural traditions in Zimbabwean society.

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Appendix

Guidelines to Authors of Articles on Country Systems of Education

Subtopic 1: A Description of General Present-day Data about the Country

The purpose of the first section is to acquaint the reader with geographical, political, economic, and social-structure factors of significant influence on education in the recent past (going back perhaps 50 to 80 years) and at present. The author should mention how these factors have affected the education system, i.e., the goals, structure, teaching methods, curricula or types of students included in the education system.

1.1 Geographical Size and Shape of the Nation

The author should introduce the reader to the main geographical features that influence education. If the size or shape of the nation has changed significantly over the past half century or so, the nature of the change (and the forces that caused the change) should be mentioned.

1.2 Population Size and Rate of Growth, Past and Present

The growth rate (increasing or decreasing) in the past and present should be mentioned; and if the rate has changed, the forces apparently causing the change should be described. It will be important to inform the reader about population distribution in terms of regions, and urban/rural, ethnic, and language factors.

1.3 Occupational and Social Class Structure

The occupational structure in relation to the nation's economic problems and present-day socio-economic development plans should be described. The relation of government planning (e.g., year-economic development plans or similar devices) to the role of the schools should be mentioned.

1.4 Structure of the Economy

An outline should be given of the size of primary (agriculture), secondary (manufacturing industry), and tertiary (service) sectors, export-import ratio, etc.

1.5 The Government Structure and Chief Political Goals

A description of government structure and chief political goals should be given, charting changes over the past 50 to 80 years. The expected role of the schools under the present governmental structure should be mentioned.

Subtopic 2: Goals of the Education System

If the goals of the education system have not been described as a part of Subtopic 1, they should be described here.

If the goals held by one segment of society differ from those held by others, or, if the official government goals (such as in manpower planning) differ from those of individuals (such as the

goals of moving up in the social structure or entering a particular occupation), then this should be pointed out, and the influence of this difference on the education system should be described.

Subtopic 3: General Structure and Size of the Education Effort

3.1 The Formal Education System

Types of schools and higher education institutions and their intended and actual roles in society should be indicated. A description of the nature of students who attend various types of schools and universities may be included.

A flow diagram, such as in the *UNESCO Statistical Yearbook* (the last one to appear was in 1980), should be included. It should cover preschool to end of university. It might also be desirable to include two graphs—one for all primary schooling and one for all secondary schooling—indicating the increase in enrolment in school from 1940 to 1980. Figure 1 presents a hypothetical example for secondary schooling. However, where 100 percent of an age group has been enrolled over this period of time, it would be enough to say so in words. Where statistics exist for the percentage of an age group enrolled in school it would be desirable to state this in words indicating where major dropout occurs and how big the dropout is. Whether you use diagrams or not, it is important that this section indicates the percentage of an age group enrolled in preprimary, primary, and secondary schools and in higher education.

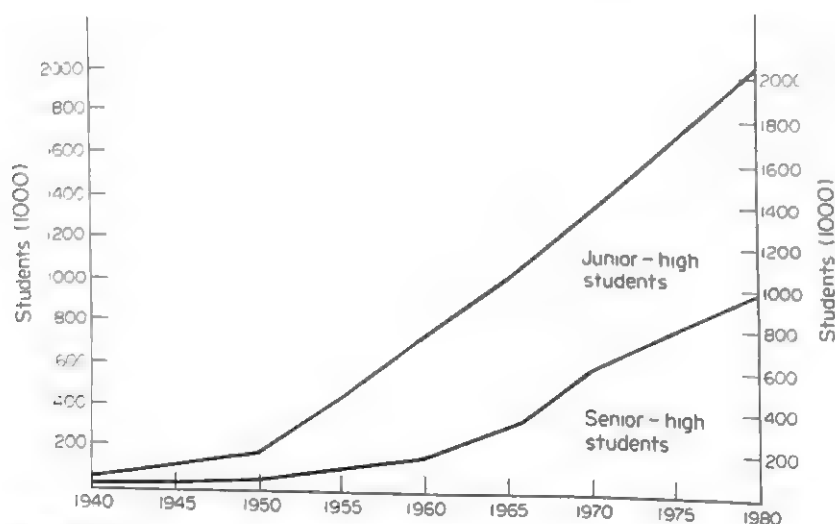


Figure 1
Secondary-school enrolment, 1940-1980

In addition, information on regional and sex differences in enrolment should be included, along with reasons for such differences. If all children are not enrolled in primary school, reasons should be given. The written text should include some comment on the flow throughout the system and on the different institutions where appropriate.

3.2 Nonformal Educational Efforts (all levels)

Information should be provided on:

- The purposes and roles of nonformal education in comparison with those of the formal school system, with particular reference to major adult education programmes.
- Different types of nonformal programmes, their purposes, how they are administered and by what organisations, and their apparent degree of success. (This should also include, where they exist, "open" secondary schools and universities.)

Subtopic 4: Administrative and Supervisory Structure and Operation

The present administrative and supervisory structure of schools, universities and nonformal education should be outlined. This description should include: (a) which organisations or ministries in the government are responsible for different types of formal and nonformal programmes and (b) the different levels of the administrative and supervision systems (a quick summary of national, regional and local systems).

Subtopic 5: Educational Finance

Summary statistics on the evolution over the last 50 years (or since independence) of the state budget devoted to education as a percentage of the gross national product and as a percentage of the total state budget should be cited. An indication should be given of the percent allocation of the state budget between the three main levels of education (primary, secondary and higher). The unit cost (per student) for each level should be provided if possible. Again, where possible, indications of the percent allocation for preprimary and nonformal education should be made, if these apply in your country.

Finally the approximate share of private resources (as a percentage of total resources) devoted to education should be indicated, stating also the major sources of private resources. A brief description of financial aid (such as grants or loans) available to secondary and tertiary education students would be extremely welcome.

Subtopic 6: Supplying Personnel for the Education System (Including Teacher Education)

The following questions should be considered:

- (a) How many of each type of personnel is in the system now? Is there a shortage? Why? How many more are needed?
- (b) How is each type trained? What efforts are being made to improve quality?

Subtopic 7: Curriculum Development and Teaching Methodology

The section on curriculum development and teaching methodology should provide information on the following areas:

- (a) Who develops the curriculum, i.e., what organisations or types of individuals are responsible for curriculum development? How is relevance ensured?
- (b) What is the scope of the curriculum in terms of geographical coverage? Is there a uniform curriculum nationwide or are there regional or local differences? If there are differences, why is this?
- (c) What sort of persons write the learning materials (e.g., text books, modules etc)? How are they tried out and how are they disseminated?
- (d) How do officials ensure that the curriculum is implemented?
- (e) What are the usual teaching methods in the classroom?
- (f) What are the chief problems faced today in the areas of curricula and teaching methods? (It might be desirable to have two sections—one for schools and one for higher education.)

Subtopic 8: The System of Examinations, Promotions, and Certifications

The author should provide information on:

- (a) The bases for deciding whether a pupil is to be promoted to the next grade or level of schooling, the system of selection used, and how this differs from certification.
- (b) What problems are faced today in improving the examination, promotion, and certification systems.

Subtopic 9: Educational Research

A brief description should be given of the evolution of the country's educational research, the main educational issues which have been researched in the last two decades and the current major research endeavours.

Subtopic 10: Major Problems for the Next Two Decades

Attention should be paid to the main problems faced by the education system today; the measures being taken to solve the problems; the major problems predicted in the education system in the next two decades etc.

Subtopic 11: Bibliography and Further Reading

Authors should list major publications dealing with their system of education which may not have been mentioned in the text as well as giving full bibliographical details of books and articles cited in the text.

Contributors Index

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**Alternative Approaches in Comparative Education* 13-19;
Comparative Studies in Higher Education 66-68

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Concepts and Theories in Comparative Education 7-10; *United States* 698-705

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Area Studies in Comparative Education 40-41
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Comparative Studies in the Economics of Education 31-40
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**Alternative Approaches in Comparative Education* 13-19
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**Germany, Federal Republic of* 294-300
- KORNHAUSER, A. (UNESCO International Centre for Chemical Studies, Ljubljana, Yugoslavia)
Yugoslavia 729-34
- EL-KOUSSY, A. A. H. (Dokki, Giza, Egypt)
Egypt 242-48
- KRAÏDY, M. (Lebanese University, Rawda, Metn Nord, Lebanon)
Lebanon 435-39
- KRUGMEIER, C. J. (University of California, Santa Barbara, California, USA)
**Panama* 538-41; *Peru* 551-54
- LAHJOMRI, A. (University Mohamed V, Rabat, Morocco)
Morocco 488-93
- LALEH, A. (University of California, Santa Barbara, California, USA)
Libya 449-51; *Uruguay* 707-09
- LÁRUSSON, H. (Ministry of Education, Reykjavík, Iceland)
Iceland 345-50
- LAYNE, A. (University of the West Indies, St. Michael, Barbados)
**Barbados* 131-35
- LÊ THÀNH KHÔI (University of Paris V, Paris, France)
Vietnam 717-19
- LEHMANN, R. H. (University of Hamburg, Hamburg, FRG)
Comparative Studies in Technical and Vocational Education 55-60
- LEIMU, K. (University of Jyväskylä, Jyväskylä, Finland)
Finland 260-67; **Lesotho* 439-43
- LIN, D. D-F. (Nantou City, Taiwan)
Afghanistan 79-80; *Burma* 166-67
- LOCKHART, L. A. (Bath, UK)
Botswana 153-56
- MCINTYRE, S. S. (University of California, Santa Barbara, California, USA)
Benin 145-47; *Central African Republic* 186-88; *Madagascar* 456-58; *Niger* 517-20; *Sierra Leone* 592-94
- MCKENZIE, P. (Australian Council for Educational Research, Hawthorn, Victoria, Australia)
Australia 106-13
- MCLEAN, M. (University of London, London, UK)
Antigua 97-101; *Bahamas* 122-25
- MCMANARA, V. D. (Victorian State Board of Education, Melbourne, Victoria, Australia)
Papua New Guinea 541-47
- MAIMBOLWA-SINYANGWE, I. M. (Goleta, California, USA)
**Gabon* 282-84; **Guinea* 316-19; **Lesotho* 439-43; *Somalia* 597-99; *Swaziland* 627-30; **Tanzania* 652-57; *Zambia* 739-42
- MAKONDA, A. (National Institute of Educational Research and Action, Brazzaville, Congo)
**Congo* 205-10
- MALEWEZI, J. C. (Ministry of Finance, Lilongwe, Malawi)
Malawi 458-63
- MARKLUND, S. (University of Stockholm, Stockholm, Sweden)
Sweden 630-37
- MATHESON, W. M. (UNICEF, Kathmandu, Nepal)
**Nepal* 495-98
- MIARO-II, B-R. (African Development Bank, Abidjan, Ivory Coast)
Chad 188-92
- MICHEL, C. M. (University of California, Santa Barbara, California, USA)
Djibouti 234-36; *Ghana* 300-04; *Guadeloupe and Martinique* 310-12; **Guinea* 316-19; **Tanzania* 652-57
- MINA, F. M. (University College of Bahrain, Isa Town, Bahrain)
United Arab Emirates 688-91
- MOHAMMED, S. J. (Ministry of Education and Youth Affairs, Muscat, Oman)
Oman 531-34

MORA, J. (University of Valle, Cali, Colombia)
Colombia 202-05

MUNBODH, S. (Ministry of Education, Port Louis, Mauritius)
Mauritius 478-81

MUSA, S. (Ministry of Education, Belmopan, Belize)
Belize 142-45

NAUMANN, J. (Max Planck Institute for Human Development and Education, Berlin, FRG)
**Germany, Federal Republic of* 294-300

NIJHOF, W. J. (Twente University of Technology, Enschede, The Netherlands)
**Netherlands* 498-506

NOAH, H. J. (State University of New York, Buffalo, New York, USA)
Methods in Comparative Education 10-13

AL-NOBAN, S. A. K. (University of Aden, Aden, People's Democratic Republic of Yemen)
Yemen, People's Democratic Republic of 726-29

NTAWURISHIRA, L. (University of Burundi, Bujumbura, Burundi)
Burundi 170-75

ODAET, C. F. (Makerere University, Kampala, Uganda)
Uganda 681-87

OGUNDIMU, B. A. (Abeokuta, Ogun State, Nigeria)
Nigeria 520-27

ONEY, B. (Istanbul, Turkey)
Turkey 676-78

PANDE, B. D. (UNICEF, Kathmandu, Nepal)
**Nepal* 495-98

PERERA, D. A. (Ministry of Education, Ratmalana, Sri Lanka)
Sri Lanka 615-19

PESCADOR, J. A. (Consejo Nacional Tecnico de la Educación, Mexico City, Mexico)
Mexico 482-85

PETRAČEK, S. (Charles University, Prague, Czechoslovakia)
Czechoslovakia 223-28

PETTY, M. A. (Catholic University of Córdoba, Córdoba, Argentina)
Argentina 101-06

†PHILLIPS, A. S. (University of the West Indies, Kingston, Jamaica)
Jamaica 398-403

PHONEKEO, K. (Ministry of Education, Sports, and Culture, Vientiane, Laos)
Laos 432-35

PORRAS-ZÚÑIGA, J. (UNESCO, Paris, France)
Comparative Statistics in Education 21-28

POSTLETHWAITE, T. N. (University of Hamburg, Hamburg, FRG)
**Fiji* 257-60; **French Pacific Islands* 280-82; *Kampuchea* 412-13; **Tonga* 664-66

PSACHAROPOULOS, G. (World Bank, Washington DC, USA)
Greece 304-09

REAY, J. (University of the West Indies, St. Augustine, Republic of Trinidad and Tobago)
Trinidad and Tobago 666-70

REDJALI, S. M. (Central Virginia Training Center, Lynchburg, Virginia, USA)
Iran 364-69

RENWICK, W. L. (Department of Education, Wellington, New Zealand)
New Zealand 506-12

RINCHHEN, N. (Ministry of Finance, Thimphu, Bhutan)
Bhutan 147-49

RODRÍGUEZ, C. (University of Chile, Santiago, Chile)
Chile 192-97

RUIZ-ESPARZA, R. (World Bank, Washington DC, USA)
El Salvador 248-51

† deceased

SAMAROO, N. K. (California State University, Hayward, California, USA)

Guyana 321-26

SATTAR, E. (Selangor, Malaysia)

Bangladesh 128-31

SENGA-NSIKAZOLO, V. (National Institute of Educational Research and Action, Brazzaville, Congo)

**Congo* 205-10

SEYA, P. T. (National University, Abidjan, Ivory Coast)

Ivory Coast 392-98

SONKO-GODWIN, P. (Nusrat High School, Banjul, The Gambia)

Gambia 284-87; *Guinea-Bissau* 319-21; *Mauritania* 476-78; *Senegal* 585-87; *Togo* 662-64

STEGE, C. T. (Los Alamos, New Mexico, USA)

Brunei Darussalam 161-63; *Mozambique* 493-95

STREUMER, J. N. (Twente University of Technology, Enschede, The Netherlands)

**Netherlands* 498-506

SUTARIA, M. C. (Ministry of Education, Culture and Sports, Manila, Philippines)

Philippines 554-59

SWETT, F. X. (Corporación de Estudios Económicos, Guayaquil, Ecuador)

**Ecuador* 239-42

TELHAUG, A. O. (University of Trondheim, Trondheim, Norway)

Norway 527-31

TEMO, S. (Institute of Pedagogical Studies, Tirana, Albania)

Albania 81-83

THOMAS, R. M. (University of California, Santa Barbara, California, USA)

American Samoa 89-92; *Comparative Studies in Primary and Secondary Education* 52-55; **Fiji* 257-60; **French Pacific Islands* 280-82; *Indonesia* 358-64; *Macao* 454-56; *Singapore* 594-97; **Tonga* 664-66; *United States Trust Territory of the Pacific Islands* 705-07; *Western Samoa* 719-22

TIBI, C. (International Institute for Educational Planning, Paris, France)

Tunisia 670-76

TITMUS, C. J. (University of Leeds, Leeds, UK)

Comparative Studies in Adult and Lifelong Education 68-72

TORKI, A. A. A. (Ministry of Education, Doha, Qatar)

Qatar 568-72

VÁIDEANU, G. (UNESCO, Bucharest, Romania)

Romania 572-75

VALENTE, M. O. (University of Lisbon, Lisbon, Portugal)

Portugal 564-68

VANBERGEN, P. (Ministry of National Education, Brussels, Belgium)

Belgium 135-42

VEGA, D. (Central University of Venezuela, Caracas, Venezuela)

Honduras 329-32

VISALBERGHI, A. (State University "La Sapienza", Rome, Italy)

Italy 385-91

WAGAW, T. G. (University of Michigan, Ann Arbor, Michigan, USA)

Ethiopia 252-57

WEIKART, D. P. (High/Scope Educational Research Foundation, Ypsilanti, Michigan, USA)

**Comparative Studies in Preschool Education* 49-52

WERTHEIN, J. (Inter-American Institute for Cooperation on Agriculture, Rio de Janeiro, Brazil)

Cuba 212-17

WOODHEAD, M. (Open University, Milton Keynes, UK)

**Comparative Studies in Preschool Education* 49-52

YEMBE, O. W. (University of Yaoundé, Yaoundé, Cameroon)

Cameroon 175-79

ZASH, A. (Ministry of Education, Amman, Jordan)

**Jordan* 409-12

Name Index

The Name Index has been compiled so that the reader can proceed either directly to the page where an author's work is cited, or to the reference itself in the bibliography. For each name, the page numbers for the bibliographic citation are given first, followed by the page number(s) in parentheses where that reference is cited in text. Where a name is referred to only in text, and not in the bibliography, the page number appears only in parentheses.

The accuracy of the spelling of authors' names has been affected by the use of different initials by some authors, or a different spelling of their name in different papers or review articles (sometimes this may arise from a transliteration process), and by those journals which give only one initial to each author.

Aarts J F M C, 506
 Abdul-Wahhab Muhammad Ibn, (579)
 Abdullah bin A-H, (409)
 Abernethy D B, 41 (41)
 Abraham A, 594 (593, 594)
 Abrahamian E, 368
 Acker S, 18
 Ackerman W, 385
 Adams C T, 31 (29)
 Adams M, 248
 Adams R S, 65 (61, 62)
 Adaralegbe A, 526
 Ade Ajayi J F, 449
 Adelman I, 38 (37)
 Aderibigbe A B, 526
 Adesina S, 526 (523)
 Adler C, 385 (385)
 Adloff R, 236 (235, 236)
 Adulyadej B, (658)
 Afzal M, 368
 Agrawal G R, 498
 Aguch F, 192
 Aguiar N, 160
 Ahamad B, 38 (33)
 Ahammer P F, 121
 Ahluwalia M, 38 (37)
 Ahmed M, xxiii, xxvi, 59 (55), 72 (70), 75 (73, 74)
 Aithnard K M, 664
 Aitken D J, 191
 Ajayi J F, 526
 Akenson D H, 377 (373)
 Aklilu Habte, 449 (446)
 Akrawi M, 372, 652
 Al-Biruni, (3)
 Al-Gaddafi M, (449)
 Al-Haje M, 438
 Al-Hammad M A, 585
 Al-Kabbani I, 248
 Al-Noban S A K, 729 (726, 727)
 Al-Saleh F S, 128

Al Saud Abdul Azeez Ibn Abdur-Rahman, (579)
 Al-Tall, 412
 Al-Zaid A M, 585
 Albornoz O, 717
 Alen A, 142
 Aliciguzel I, 678
 Allman J, 676
 Altbach P G, xxiv, xxv, 18 (14, 16, 17), 19 (17), 38, 48 (46), 55, 68, 358
 Altenhuber H, 121
 Altomare G, 48 (46), 68
 Amadeo J, 106
 Amare G, 257
 Ambrose D P, 443
 Amin I, (681)
 Amin S, 397 (397)
 Anderson B, 547 (544)
 Anderson C A, 38 (32)
 Andorka R, 345
 Andrews B, 629
 Andrews J H M, 185 (184, 185)
 Angulo A, 204
 Antoun J, 438
 Anzalone S, 443
 Apple M, 18 (16)
 Arango J, 615
 Arbi S Z, 363 (362), 364 (362)
 Archer M, 18 (15)
 Ariyadasa K D, 619
 Armijo J, 197
 Arnold M, xvii, xviii, (6), (11)
 Arnove R, 18 (14, 16)
 Arnove R F, 38, 55
 Arrien J B, 517
 Arrow K, 38 (34, 35)
 Artigas J T, 615
 Arumugam R S, 597
 Ashby E, 68
 Ashford D E, 31
 Asselain J C, 277
 Atatürk M K, (676)

Ateek A A, 248
 Atkinson N, 745
 Aurobindo S, (351)
 Austin G R, 52 (51)
 Ayalon E, 191
 Ayub Khan, (535)
 Azad A K, (35*)
 Aziz A A, 467

Baba T L, 54 (53)
 Bacchus M K, 325 (325)
 Bache A D, 13 (11)
 Bacon F, (4)
 Bacon R, (3)
 Baina A, 493
 Baird C L, 325 (325)
 Baldayev R L, 488
 Barbagli M, 391
 Barber B, 9 (9)
 Bardales R, 332
 Barnard H, (5)
 Barnett W S, 52 (49)
 Barrow C, 135 (131)
 Bary P (ed.), 284
 Bashi J, 385 (380, 384)
 Baskota N P, 498 (496)
 Basset C-A, (5)
 Bauer Stimmann I, 152
 Bawden C R, 488
 Beattie N, 391
 Beccar-Varela A, 495
 Beck C, 188
 Beck R H, 31 (29)
 Becker G, 38 (34, 35)
 Becker H, 385
 Beddoe I B, 670
 Beeby C E, 9 (8), 54 (53), 363 (362), (720), 729 (729)
 Bello A, (712)
 Belshaw D G R, 687 (681)

- Ben-David J, 68, 705
 Benachenhau A, 89
 Benavent J A, 615
 Bennell P, 54 (53)
 Bennett B L, xxvi
 Bennett C, 72 (69)
 Bennett H, 403
 Bennett N L, 662
 Bentt V, 325 (325)
 Benyahia M-S, 89 (85)
 Beqja H, 83
 Berdahl R O, 48 (46), 68
 Bereday G Z F, (6), 9, 13 (11),
 31 (29, 30)
 Bergendal G, 637
 Berliner D C, 41
 Berman E, 18 (16)
 Bernede J F, 541 (541)
 Berry A, 38 (33, 34, 35)
 Berthelot R J, 59 (55)
 Bertrand H, 210
 Besha M P, 657 (652, 657)
 Beshir M O, 623
 Betham M T, 92 (90)
 Bezdanov S, 734
 Bhatnagar J, 54 (54)
 Bhutto Z A, (535)
 Biddle B J, xxii, xxvi, 66 (60)
 Bierschenk B, 637
 Bill J A, 368
 Binger, (392)
 Binyamin of Tudela, (4)
 Biraimah K, 18 (17)
 Birdsall N, 38
 Birendra Bir Bikran Shav Dev, (496)
 Blakemore K, 179
 Blanc E, 646
 Blanchard W, 488
 Blaug M, 38 (33, 34, 35, 37)
 Bloom B S, 31 (29)
 Blumenbach J F, (5)
 Boalt G, 31 (29), 637
 Bodenman P S, 646
 Boemus J, (4)
 Boganda B, (186)
 Bogba P, 448
 Bokassa J-B, (186)
 Boktor A, 248
 Boli-Bennett J, 19 (14)
 Bolívar S, (150), (712)
 Bolland O N, 145
 Bonnie M E, 368
 Borg K, 234 (232)
 Borus M, 59 (55)
 Bottani N, 646
 Botti M, 478
 Boudet M R, 438
 Bouët-Willaumez, (392)
 Bourdieu J, 18 (15)
 Bourdieu P, 9 (9)
 Bovet P, (645)
 Bowles S, 9 (9), 217 (213), 309
 Bowman M J, 18 (15), 38 (32)
 Bown L, 449
 Bracciolini P, (4)
 Braithwaite R H E, 670
 Brandolini L, (4)
 Brasseut G, 280
 Brereton W, (4)
 Brickman W W, xxiv, 6, 9 (7)
 Brimer M A, 338 (335)
 Brinckmann J P, (5)
 Broadfoot P, 18
 Brock C, 18
 Brodersohn M, 38 (35)
 Brown D E, 163
 Brown G, 623
 Bsais A, 676
 Buch M B, 358
 Buffon G de, (6)
 Buroonds J, 420
 Burroughs G E R, 717 (713)
 Burton R D E, 312 (310, 312)
 Butler G G, 448
 Cabral A, 321
 Caesar J, (3)
 Caetano M, (564)
 Caillods F, 38 (34, 35), 59 (59), 541 (539)
 Cameron J, 476, 657 (653)
 Cameron S, 31 (30)
 Campbell D D, 185 (179)
 Camper P, (5)
 Canestri G, 391
 Capelle J, 280
 Carabaña J, 615
 Cardoza Y Aragón L, 316
 Carelli M D, 478
 Carlon S J, 448 (448)
 Carmon A, 385
 Carnoy M, 18 (14, 16), 38 (33, 35, 37),
 40 (34, 35), 217
 Carrillo Ramirez A, 316
 Carroll J B, 54 (54), 65 (61, 62, 64)
 Carron G, 38 (37), 458
 Carson A L, 559
 Carter J, (538), 681
 Casas Armengol M, 717
 Castro C M, 59 (59)
 Castro F, (214), (216), 217
 Cauvin M, 300
 Chabal P, 321
 Chabou M-D, 89
 Chamberlain R J, 185 (183)
 Chang-boh Chee, 425
 Chantavanich S, 662 (661)
 Chantler C, 303 (302)
 Chapelle J, 191
 Charliek R B, 397
 Charnley A, 72 (70)
 Charters A N, 72
 Chau T N, 38 (37), 662 (660)
 Chavarría Flores M, 316
 Chazan M, 52 (50)
 Chen M, 385 (385)
 Chen P S J, 662
 Chenery H, 38 (37)
 Chenery H B, 38, 309
 Cheney M S, 585 (579)
 Cherkaoui A, 493
 Cherkaoui M, 277
 Chernick S E, 101, 125
 Cheung Yat-sing, 338
 Chew Tow Yow, 467
 Chiappo L, 554
 Chin L F, 597
 Choppin B H, 363 (363)
 Christie P, 605 (602)
 Church R J M, 420
 Cicero M T, (3)
 Cipolla C M, 391
 Cismaresco F, 59 (55)
 Cives G, 391
 Claparède E, (640), (645)
 Clark B, 68
 Clarke P J H, 420
 Clarke J I, 420
 Claro R P, 456 (455)
 Clement J R B, 52 (49)
 Clement W, 121
 Clignet R, 398
 Clignet R P, 41 (41)
 Clyde P H, 707 (705)
 Coates A, 711
 Cocchi A, (5)
 Cochrane S, 38 (35)
 Cohen I, 385 (383)
 Cohen J, 385
 Colclough C, 38 (33), 39 (33), 156
 Cole H, 449 (448)
 Coleman I C, 729 (726)
 Coleman J S, 9 (8), 18 (16), 54 (53)
 Coleman P T, 92 (91, 92)
 Colle R, 75 (74)
 Colletta N J, 707
 Colliander M, 568
 Collins C, 605 (602)
 Comber L C, xx, xxvii, 55 (54), 65 (61,
 62, 64), 408
 Condorcet M J A N, (5)
 Congreve G S, 326
 Constantine, (163)
 Cooksey B, 179
 Coolahan J, 377
 Coombe T A, 742 (740)
 Coombs F S, xxiv, 31 (29)
 Coombs P, 18 (17)
 Coombs P H, xxiii, xxv, xxvi, 72 (70),
 75 (73, 74)
 Cordor S H, 449
 Cornevin R, 664 (662)
 Correa H, 135 (133)
 Corvalán G, 550 (548), 551 (548)
 Corvalan O V, 59 (58), 72 (71)
 Corvalan-Vasquez O V, 59 (58)
 Costs M, 568
 Courbage Y, 438 (436)
 Court D, 18 (17)
 Court F, 420
 Cousin V, xvii, (5), (11)
 Coxe L, (4)
 Coxe W, (5)
 Craig J, (15)
 Craig J E, 41 (41)
 Cremin L A, 705
 Crenius T, (4)

- Criscom J, xvii
 Croce B, (387)
 Crowder M, 449, 587
 Cuerpo M G, 615
 Cumming A, 512
 Cumming I, 512
 Cummings R L, 332
 Cummings W, 18 (17), 408
 Curran B D, 478 (476)
- Dacko D, (186), (187)
 Dahllöf U, 637
 Dahlman C J, 217
 Dale R, 568
 Danckaerts J, (4)
 Danner H E, 257
 Darlington R, 52 (49)
 Dars S, 488
 Davidson B, 321
 Davidson J W, 722
 Davies D K, 746
 Davis D, 385 (380, 384)
 Davis J, 495
 Daw H M K, 167
 De Block A, 142
 De Bunsen B, 687
 De Castilla M, 517
 de Peretti A, 277 (276)
 de Quesada A A, 332
 de Raadt P, (5)
 De Sanctis F, (386)
 de Tocqueville A, xvii
 Debeauvais M, xxiv, 38 (33)
 Deble I, 55 (54)
 Decalo S, 146 (145), 191, 520 (517, 519), 664
 Decary R, 236
 Deen N, 506
 Deighton L C, 451, 709
 Dell Mour R, 121, 122
 Deloof E, 142
 Delury G E, 146 (145)
 Demetriades E I, 223
 den Tuinder A B, 398 (397)
 Denison E F, 38 (32)
 Derrick R A, 260 (257)
 Deschamps H, 236
 Desmond C, 605
 d'Hertefelt M, 175
 di Piano Carpini G, (3)
 Diaz A, 205
 Diderot D, (5)
 Diego Marquez A, 48 (46)
 Diejomaoh V P, xxiii, xxvi, 75 (73)
 Diez Hochteilner R, 615
 Diguimbaye G, 191
 Dilthey W, xviii
 Diori H, (518)
 Djalil A, 363 (363)
 Dobert M, 319 (317), 587
 Dobson N, 145
 Dobson R, 18 (17)
 Dodd W A, 657 (653)
 Doe S K, (443)
- Dokka H J, 531
 Doraisamy T R, 597
 Dore R, 59 (59)
 Dostal H, 192
 Dougherty C, 38 (33), 39
 Dove L, 18 (16)
 Drecin J, 345
 Duberg B R, 449 (444, 447, 448)
 Duke of Württemberg, (4)
 Dunkin M J, xxii, xxv, xxvi, 65 (60, 61), 66 (60)
 Dupont-Gonin P, 280
 Dupuy F, 280
 Dupuy T N, 488
 Duru M, 277 (276)
 Duvieusart B, 398
 Dwarkasing W W, 627
- Ebanks G, 135 (131)
 Eckstein M A, xvii, xxiv, xxvi, 9 (9), 10 (8), 13 (11), 38, 391
 Edding F, 38 (31)
 Edelstein W, 350
 Edghill L J, 670
 Edwards R, 9, 13
 Egger E, 646
 Eicher J-C, 277
 Eisemon T, 18 (17)
 El-Khawas M A, 495
 El-Koussy A A H, 248
 Eliou M, 210 (209), 309
 Elley W B, 363 (363)
 Elliott C, 19 (17)
 Elvin L, 377
 Emerson L H S, 438
 Emery N, 185 (185)
 Engquist O, 619
 Epstein A S, 52 (49)
 Erasmus D, (4)
 Erny P, 578 (577)
 Eshiwani G S, 420 (419)
 Esland G, 568
 Esman M J, 75 (74)
 Eurich N, 68
 Everly H V, 92 (90)
 Evers E A, (5)
 Eysteinson L, 350
- Fa-Hsien, (3)
 Fabricius J C, (5)
 Fadiga Zanatta A L, 391
 Fafunwa A B, 526 (520, 525)
 Fagen R R, 217 (213, 214)
 Faisal I, (647)
 Fapohunda O J, 526
 Fargues P, 438 (436)
 Farine A, 385
 Farnen R F, 66 (61, 65)
 Farquhar R H, 527
 Farrell J, 39 (36)
 Farrell J P, 38 (37), 39 (37), 41, 55 (53)
 Farrugia C J, 476
- Faustin K Y, 398
 Fedorov I, (605)
 Ferguson R, 568
 Fernández Heres R, 717 (715)
 Fernandez J M, 239 (238)
 Fernandez P B, 239 (239)
 Ferrière A, (641)
 Fields G S, 38 (37)
 Figueroa J J, 403
 Figueroa P M E, 403
 Filp J, 52 (51)
 Fine J, 420 (417)
 Fischer M M J, 368
 Fisher S H, 101, 125
 Fiszman J, 18 (17)
 Flanders N A, 66 (60)
 Flegg E, 97
 Flegl V, 228
 Fletcher G, (4)
 Flexner A, (6), 68
 Fliedl G, 122
 Flower R, 59 (58)
 Fogel B R, 257
 Foster P, xxiv, 41 (41), 398
 Foster P J, 31 (29)
 Fournier J, 277
 Fourier C, 277
 Framheim G, 300
 Franco A, 205 (202)
 Franklin B, (5)
 Franković D, 734
 Fraser B J, 54 (53)
 Fraser P, (508)
 Fraser S E, 6, 9 (7)
 Fraser S F, 13 (10)
 Friedel V-H, (6)
 Friedrich, (4)
 Friesen D, 385
 Fröbel F W A, (640)
 Frondizi A, (102)
 Fry G, 19 (14)
 Fry G W, 662 (658, 661)
 Führ C, 31 (29), 300
 Furter P, 717 (713)
- Gaal H A, 599 (597)
 Gage N L, 66
 Gailey A H, 287 (285)
 Gámez U, 212
 Gandhi M, (351), (352), (356), (357), 358
 Garibaldi G, (386)
 Gaspar J, 568
 Gaszó F, 345
 Gattullo M, 391
 Gayfer M, 185 (179, 181, 182, 184)
 Geertz C, 38
 Gentile G, (387)
 George P M, 135 (131)
 Georgiewicz B, (4)
 Georgovasilis D, 309
 Gerbner G, 217
 Germanacos C L, 326
 Gerteiny A G, 478
 Ghafoor A, 537 (536)

- Ghai D P, 420
 Gheorghiu M, 575
 Giesbers J H G I, 506
 Gillion K L, 260
 Gintis H, 9 (9)
 Giurescu D, 575
 Glover V, 481
 Gocking C V, 670
 Godoy Castro R, 717
 Goethe J W von, (5)
 Goh K S, 597 (597)
 Goldschmidt D, 300
 Goldsmith O, (5)
 Goldstein S, 385
 Gomez Castellanos L, xxiv
 González Orellana C, 316
 Gordon S, 403
 Gordon S C, 326
 Goutard M, 52 (51)
 Gowda Deve A C, 38 (37)
 Grácio R, 568
 Grandguillaume G, 89
 Grant N, 13 (11)
 Grassau E, 197
 Green H A, 385
 Greene J E, 135 (131)
 Gregorio H C, 559
 Gretler A, 646
 Griffin P, 338 (335)
 Griscom J, (11)
 Grossi M C, 197
 Guicciardini L, (4)
 Gulielmus of Tyre, (3)
 Gumbert E B, 39
 Günther K H, 293
 Gurgsdies E, 637
 Gusten R, 623 (620)
 Guzmán Blanco A, (712)
 Gwee Y H, 597
 Gwei S N, 179
- Haag H, xxiii, xxvi
 Haar J, 160
 Habte Akilu, 257
 Haertel E H, 60 (58)
 Haglund S, 568
 Hallak J, 38 (34, 35), 541 (539)
 Halliday F, 369
 Halls W D, 31 (29), 191
 Halon J, 495
 Halsey A H, 217
 Hamid A A, 80
 Hancock G, 146 (145, 146), 188, 458 (457), 520 (518), 594 (592)
 Hannon M, 19 (14)
 Hanooh G, 38 (35)
 Hans N, xvii, xxvi, 6, (6), (12), (40)
 Hans N A, 9 (7)
 Hansen E J, 234 (230)
 Hansen W L, 38 (32, 35)
 Haq S, 537
 Harbison F, 13 (12)
 Harby M K, 248
- Haredero J M, 75 (74)
 Harris W T, xviii, (6)
 Harrison D, 605
 Harry K, 72 (70)
 Hassan Y F, 623
 Hasselmann K H, 449 (444)
 Hauch C C, 101, 125
 Hauger J, 280
 Haugse V L O, 160
 Hausmann G, 6
 Haussman F, 160
 Havighurst R J, 160
 Haygood N, 72 (69)
 Hearnden A, 300
 Hecht F A, (5)
 Hecló H, 31 (29)
 Heidenheimer A J, 31 (29)
 Helgadóttir G, 350
 Helleiner G, 687 (681, 683)
 Henderson H J R, 420
 Henderson N K, 338
 Henriques F, 403 (399)
 Herder J G von, (5)
 Hernandez F M, 239 (238)
 Herodotus, (3)
 Heyman R, 18 (15)
 Heyneman S, 18
 Heyneman S P, 18, 38 (36, 37), 39 (36), 687
 Hicks N, 39 (33)
 Higginson J H, 6
 Hildebrandt C J, (4)
 Hilker F, (6)
 Himmelheber H, 449 (444)
 Hinchliffe K, 13 (12), 38, 39 (33, 35)
 Hinton A, 338
 Hinton H C, 167
 Hinzen H, 657 (653, 654, 655)
 Hippeau C, (5)
 Hippocrates, (3)
 Hisket N, 623
 Ho Chi Minh, (717)
 Hoffer T, 54 (53)
 Hofferbert R, 31 (30)
 Holberg L, (5)
 Hollister R G, 39 (33)
 Holmes B, 9 (9), 13 (11), 48 (46), 192, 280, 303 (302, 303), 312 (311), 541
 Hong Sah Myung, 429
 Hönigspurger E, 122
 Hopkin A G, 260
 Hörner H, 637
 Horton R, 449 (443, 444)
 Housego I E, 527
 Hoxha E, (81), 83
 Hüfner K, 300
 Hughes R E, (6)
 Hugon P, 458 (458)
 Humphrey J, 59 (59)
 Hun Ryu, 424 (421)
 Hundsdorfer V H, 657 (653, 654, 655)
 Husain S A, 358
 Husén T, xxvi, 31 (29), 39 (33, 36), 66 (61, 63, 64), 408, 449, 637
 Hutcheon R, 338
 Hyde G D M, 248
- I-Tsing, (3)
 Ibn Khaldun, (4)
 Ibrahim M, 248
 Idenburg P J, 506
 Idris I, (449)
 Iglesias F E, 709
 Ikejiani O, 526
 Ingham L J, 512
 Inkeles A, 9
 Isaacmam A F, 495
 Isaksson A, 350
 Isos R, 541 (539)
- Jackson S H, 248
 Jallade J P, 39 (35, 36, 37)
 Jamal A M, 585
 James E, 18 (18)
 Jamison D T, 39 (34, 35, 36), 75 (74)
 Jamison T, 39 (36)
 Jansen M, 234 (233)
 Janssens S, 142
 Januszkiewicz F, 563
 Jaulin R, 192
 Jayasuriya J E, 619
 Jean-Louis P, 280
 Jedina-Palombini A, 122
 Jefferson T, (6)
 Jemberie A S, 257
 Jernosek I, 488 (486)
 Jinnah M A, (534)
 Johansson S, 128
 Johnson F H, 185 (181, 182)
 Johnson V B, 59 (58)
 Jolly R, 39 (33), 217
 Joncich G M, 705
 Jones A B, 449
 Jones I S, 59 (58)
 Jones W, (5)
 Jong Chul Kim, 425 (421)
 Jósepson B, 350
 Joshi S R, 498
 Jourdan M, 646
 Jowitt H, (743)
 Juhas M, 734
 Jullien de Paris M-A, xvii, xviii, (5), (10), (30)
 Just W, (4)
 Jüttner E, 637
- Kabwasa A, 303 (302)
 Kahn A M, (79)
 Kahn S, 385 (380, 384)
 Kakar M H, 80
 Kalck P, 188 (187)
 Kale J, 179 (178)
 Kalewold I, 257
 Kaluza A, 121
 Kamal L, 493
 Kandel I L, xviii, xxvi, (6), 9, (12), (40)
 Kann U, 156
 Kaplan I, 304 (301, 302, 303), 495, 599, 742

- Karabel K, 217
 Karamanlis C, (308)
 Karamzin N, (5)
 Kardelj E, 734
 Karmel P, 113, 512
 Kasaju P, 498
 Kaser M C, 13 (12)
 Kaunda K D, 742 (741)
 Kaunda M M, 303 (302)
 Kay J, (6)
 Kay S, 41 (41)
 Kay-Shuttleworth J, (6)
 Kaye T, 72 (70)
 Kayser, D, xxvi
 Kazamias A, 18 (15)
 Kazamias A M, 18 (15), 309
 Kazemi F, 369
 Keddie N, 368
 Keesing F M, 722
 Keeves J P, xx, 55 (54), 65 (61, 62, 64), 408
 Kelly D, 18, 19, 68
 Kelly D H, 48 (46)
 Kelly G, xxiv, 18 (16), 19 (17), 68
 Kelly G P, 38, 48 (46), 55
 Kemenade J A van, 506
 Kenehe S, 547 (545, 546)
 Kennedy F, 377 (373)
 Kerl F, 122
 Kerr M, 403 (399)
 Ketudat S, 19 (14), 662
 Khadduri M, 372
 Khayar I H, 192
 Khin M U, 167
 Kibria G, 742
 Kidd J R, (69), (71), 72 (69, 71)
 Kilgore S, 54 (53)
 Kim Il Sung, (420), 425
 King E, 59 (56), 72 (69)
 King E J, 13, 31 (29), 605 (602), 705
 King K, 52 (50)
 King St C, 670
 King T, 38, 39
 Kipkorir B E, 420
 Kiyao R, 657 (657)
 Kleinberger A F, 385 (378, 379, 380, 384)
 Kleis R, 75 (74)
 Knapp W, 676
 Knoll A, 664 (662)
 Knoop R, 135
 Knowles A, 68, 192
 Knowles A S, 170, 478
 Kogan M, 31
 Kollingba A, (187)
 Konan-Kouadio P, 398 (397)
 Koornhof P G J, (602)
 Köpeczi B, 345
 Kornidesz M, 345
 Kountché S, (518)
 Kozma T, 345
 Kristiansen R, 531
 Kulich J, 72 (69, 70)
 Kurri E, 267
 Kwang Suk Choi, 425 (421)
 Kyrkos V, 309
 La Chalotais L R, (5)
 La Rochefoucauld F, (5)
 Laabs H J, 293
 Lakos S, 345
 Lallez R, 179 (178)
 Lancy D, 547 (547)
 Landler F, 122
 Langue R, 191
 Lanne B, 192
 Lapidus G, 19 (17)
 Lappe F M, 495
 Laroui A, 493 (488)
 Lassibille G, 277
 Latapi P, 485
 Latifa Al-Manael, 128
 Latorre C L, 197
 Lau L J, 39 (34, 35)
 Lauglo J, 59 (55)
 Laurens C, 282
 Lauwerys J A, (6)
 Lave C A, 449 (448)
 Laverhass L, 160
 Layard R, 39 (34, 35)
 Lazar I, 52 (49)
 Le Bienvenu E, 554
 Le Roy L, (4)
 Lê Thành Khôi, 48 (46), 719
 Le Vine V T, 179
 Leagle L, 385
 Leal L, 568
 Lebouder J-P, (187)
 Lee H R, (90)
 Legrand L, 377
 Lehmann R, xxv, 59 (59)
 Leibenstein H, 309
 Leigh E, (4)
 Lemarchand R, 578 (576)
 Lemke D A, 332
 Lenglet F B M, 398 (394)
 Leschinsky A, 300
 Leskinen J, 267
 Leslie J, 38, 39 (35, 36)
 Levasseur P E, xviii, 13 (12)
 Levin H, 19 (16, 17)
 Levin H M, 39 (33)
 Levine R A, 39 (35)
 Levinson M, 59 (58)
 Levitt K, 135 (131)
 Lévy-Garboua L, 277
 Levy M, 75 (74)
 Lewin K, 39 (33)
 Lewis E G, xxii, xxvi, 66 (61, 64, 65)
 Lewis G K, 101, 125
 Lewis L J, 476, 527
 Lewy A, xxii, 48 (46), 385 (385)
 Li Fo Sjoie A S, 627
 Lijphart A, 506
 Lipset S M, 68
 Little A, 39 (33)
 Liveright A A, 72 (69)
 Llach J J, 106 (101)
 Lobban R, 321
 Loccenius J, (4)
 Lockheed M E, 39 (34, 35)
 Lord R, 338
 Lowe J, 72 (70)
 Loxley W, 38 (36, 37)
 Lulat Y G M, 18 (17)
 Lull R, (3)
 Lundgreen P, 300
 Lungre U, 568
 Lutz B, 59 (58)
 McAnany E G, xxiii, xxvi, 39 (37), 75 (74)
 McCarthy S, 156
 Macdonald M, 568
 McGinn N, 19 (15, 16)
 MacGleannain S S, 377
 Machlup F, 10 (8)
 McIntyre A, 135 (131)
 McLaughlin J, 319 (317)
 McNamara V, 547 (546)
 McNeil W H, 309
 Magnusson M, 350
 Mahenge S T, 657 (652, 657)
 Mahmoud M N, 80
 Maigne J M, 398
 Malan D F, (601)
 Malekela G A, 657 (652, 657)
 Malherbe E G, 605 (602)
 Maliqa M, 575
 Mallea J R, 13 (11), 391
 Mamba M, 605
 Mangindaan C, 363 (363)
 Mangubhai, 260
 Mann H, (5), (11)
 Mappa S, 39 (37)
 Marecki S, 550 (548)
 Mar'i S K, 385 (380)
 Marinich A, 59 (56)
 Marklund S, 637
 Maroun I, 439 (436)
 Marshall E K, 627
 Marshall A, (32)
 Marta Sosa J, 717
 Martens L, 142
 Martin R, 55 (54)
 Martinez Paz F, 106
 Marvin B, 319 (317)
 Masemann V, 19 (16)
 Massad C E, 66 (61, 64, 65)
 Matthews R, 652
 Matthews R D, 372
 Matthias I Corvinus, (338)
 Maydl P, 72 (71)
 Mbise A S, 657 (652, 657)
 Meek J C, 385
 Megarry J, 72 (71)
 Mehrez Z, 128
 Meier A, (4)
 Ménard A, 236
 Mendes D T, 160
 Mendoza A, 205
 Menendez A, 316
 Merrouni M, 493
 Mesa-Lago C, 217
 Meyer J, 19 (14)
 Mialaret G, 52 (51), 277 (276)
 Miaro M, 192
 Michaelides A, 223

- Middendorp J, (4)
 Mill J S, (32)
 Miller E L, 403 (399)
 Miller R, 485
 Millot B, 277
 Mills M G, 746
 Mingat A, 39 (37), 277 (276)
 Minkovich A, 385 (384)
 Minot J, 277
 Miranda, (712)
 Mitzel H E, 705
 Moegiadi, 363 (363)
 Molesworth R, (4)
 Molina G, 212
 Monigl I, 345
 Montaigne M E, (4)
 Montenegro X, 39 (36)
 Montessori M, (641)
 Mooock P, 39 (34, 35)
 Moor C H, 31
 Moreira J R, 160
 Morgan M, 55 (54)
 Moritz C P, (5)
 Morles A, 717 (716)
 Morrell W P, 711
 Morris C T, 38 (37)
 Morrison D, 19 (17)
 Morrisson C, 676
 Morss E, 75 (74)
 Mothobi B D, 746
 Mott F, 526
 Moulton J, 75 (74)
 Moulton J M, 520 (519)
 Mouzelis N, 309
 Moyongar N, 192
 Mufti A G, 537 (535)
 Mugabe R, (743)
 Muhaimin, 363
 Mulcahy D G, 377
 Mulier F, 739 (738, 739)
 Mulier Vandamme S, 739 (738, 739)
 Müller F, 646
 Munck I M E, 59 (59)
 Mundy J A, 31
 Murdoch J P, 627
 Murphree M M, 746
 Murray H, 52 (49)
 Murtill P-A, 280
 Musa I, 363 (363)
 Mussolini B, (252), (387)
 Mveñg E, 179
 Mwanakatwe J M, 742 (740)
 Myers C A, 13 (12)
 Myers R, 52 (50)
 Mys A A, 627

 Nadiri M I, 39 (32)
 Naik J P, 358, 537
 Najati B, 412
 Nasoetion N, 363 (363)
 Nasr S H, 369
 Nathalang E, 662
 Naughton P W, 719
 Naumann J, 300

 Navarro-Gomez L, 277
 Ndagi J O, 527 (524)
 Nehru J, (357)
 Nelson D N, 587
 Nelson H D, 192, 319 (317), 599
 Nelson L M, 92 (90)
 Nemeth E J, 554 (552)
 Neuner G, 293
 Nevo D, 385 (385)
 Newell K W, 75 (74)
 Newton E, 670
 Ngouabi M, (205)
 Niculescu A, 575
 Nitsch W, 68
 Nivar C, 239 (238)
 Niven J McG, 605
 Nkodo T, 192
 Noah H J, xvii, xix, xxiv, xxv, xxvi, 9
 (9), 10 (8), 13 (11, 12), 31 (29), 38, 39
 (33), 391
 Nobbe C E, 135 (131)
 Nolte R H, 372
 Noonan R, 39 (36)
 Noorullah S, 537
 Norman J B, 345
 Noval J, 316
 Ntahobari M, 578 (576, 577, 578)
 Nurula S, 358
 Nyberg R, 267
 Nyerere J K, (652), (653), 657 (653)
 Nyrop R F, 451, 541, 578 (577, 578), 726

 Obote A M, (682), 687
 Ocho L, 527
 Odaet C F, 687
 Odeye M, 210
 Ogbu J, 19 (15)
 Ogundimu B A, 527
 O'Hara D J, 38 (35)
 Ojo F, 527
 Okafor N, 527
 Oliveira J B, xxvi, 39 (37)
 Omari M, 657 (652, 654, 655, 657)
 Onkoo Elo II (Makoko), (205)
 Onushkin V, 68
 Opland J, 605
 Oppenheim A N, 66 (61, 65)
 Orbell S F W, 746
 Orellana E, 197
 Orivel F, xxvi, 39 (37), 277
 Orring J, 637
 Ørum B, 234 (230)
 Osman M, 80
 O'Toole T, 188
 Oxtoby R, 59 (58)
 Ozgentas I, 678
 Ozigi A, 527

 Pande B D, 498
 Papandreou A, (309)
 Papandreou G, (308)
 Papanoutsos E, 309

 Parker G, 652
 Parton H N, 512
 Passeron J, 18 (15)
 Passeron J C, 9 (9), 18 (15)
 Passin H, 13 (11)
 Passow A H, 13 (11), 391
 Paton A, 605
 Patricio C, 717
 Paulston R, 19 (15, 16), 217 (212)
 Paulston R G, 31 (29), 554, 637
 Pavlovič G, 228
 Paxton J I, 690
 Peacham H, (4)
 Peaker G F, 55 (54)
 Peaslee A L, 39 (32)
 Pedro E, 568
 Peiris K, 619
 Peisert H, 300
 Peñalver L M, 717
 Pérez E, (151)
 Perkins J, 68
 Perón I (M E), (102)
 Perón J, (102)
 Perrot J, 277 (276)
 Perry J, (5)
 Persaud G, 403
 Persianis P K, 223
 Pestalozzi J-H, (5), (638)
 Peterson A D C, xxvi
 Peterson, 72 (72)
 Petty M, 106
 Petty W, (5)
 Pfau R, 19 (15)
 Pham Trong Chanh, 719
 Phillips A S, 403 (399)
 Phomvihane K, 435 (433)
 Phonekeo K, 435
 Piaget J, (645)
 Pilain M A, 60 (57)
 Pindar, (3)
 Pindling L O, (123)
 Pinon-Espinoza C, 554 (553)
 Piskaty G, 122
 Plank D, 19 (15)
 Pliya J, 146 (146)
 Pock J, 18 (15, 16)
 Poignant R, 10 (8)
 Poinot J P, 236
 Pollard M D, 326 (325)
 Polo M, xvii, (3)
 Polybius, (3)
 Porras-Zúñiga J, xxiv
 Postel G, (4)
 Postlethwaite T N, xxii, xxvi, 31 (30,
 31), 48 (46), 52 (51), 260, 282, 363
 (359, 361, 363), 429, 467, 597 (595)
 Potkonjak N, 734
 Pott D, 629 (628)
 Prais S J, xix, xxvi, 60 (58)
 Premaratne B, 619
 Premfors R, 31 (29)
 Prewitt Diaz J, 554
 Prieto Figueroa L B, 717
 Prokof'ev M A, 60 (56)
 Proppé Ó, 350
 Prosser R C, 75 (74)

- Prost A, 277 (269)
 Psacharopoulos G, 13 (12), 19 (17), 38 (33), 39 (32, 33, 34, 35, 36), 60 (56), 223, 309
 Purves A C, 66 (61)
 Puryear M, 60 (59)
- Qubain F I, 372
 Quint M, 372
 Quizot, (305)
 Oureshi I H, 538
- Rachidi M, 493 (492)
 Radhatrishnen S, (357)
 Rajgopalachary C, (357)
 Ramdoyal R D, 481
 Ramirez F, 19 (14)
 Randles E, 377
 Razafindrakoto A, 458 (457)
 Reams J, 304 (302, 303)
 Recuperati G, 391
 Redjali S M, 369
 Rees D G H, 443 (442)
 Rensch E S, 627
 Renwick W L, 512
 Reppert J, 319
 Richardson F, 239
 Richmond E B, 578 (577)
 Rinchen B, (485)
 Rivarola D M, 551 (548)
 Rivera E, 197
 Rivièrè C, 319
 Robertson A, 403
 Robinson E A G, 13
 Rodríguez C, 197
 Rodríguez, (712)
 Roeder P, 300
 Rogers C, 547
 Rogers D C, 39 (35)
 Rogers W T, 185 (184, 185)
 Rolff H-G, 300
 Rosenberger F, 122
 Rosenblat A, 717
 Ross M, 68
 Rosselló P, 6, (6)
 Roth W C W, 623 (619)
 Roucek J, 188 (187)
 Rousseau J-J, (5), (638)
 Royce J, 52 (49)
 Rubinson R, 19 (14)
 Ruiz Calderon H, 717 (715)
 Ruperti R M, 605
 Russell R, 59 (58)
 Ryan P, 547
- Said B M, 623 (620)
 Sahoo P, 662 (661)
 St Cyril, (729)
 St Methodius, (163), (729)
 Saiyidain K G, 358
 Salas Silva I, 197
 Salazar A, (564)
 Saliba, 478
 Samaroo N K, 326 (321)
 Sampaio J, 568
 Sanders A J K, 488
 Sandiford P, (6), 13 (12)
 Sanjaasuren R, 488 (486)
 Sanjurjo M E, 38 (35)
 Santos A L Dos, 456
 Sanyal B C, 248, 742 (740)
 Sapstead D, 432
 Saraiva J, 568 (564)
 Sarmiento D F, (5)
 Sassou-Nguesso, (205)
 Sattar E, 131
 Saud Muhammad Ibn, (579)
 Sauerschnig R, 121
 Savorgnan de Brazza P, (205)
 Scalapino R A, 425
 Scaliger J, (4)
 Schaefer C J, 60 (58)
 Scheifelbein E, 52 (51)
 Scherer J H, 175
 Schiefelbein E, 19 (15), 39 (35, 36, 37), 48 (47), 55 (53), 197, 239 (238), 550 (548), 717 (714)
 Schiller J C F von, (5)
 Schino F, 391
 Schneevoigt N, 60 (58), 72 (70)
 Schneider F, xviii, xxvi, (6)
 Schramm W, 92 (90)
 Schrock J, 478 (476)
 Schuller T, 72 (71)
 Schultz T W, 39 (32)
 Schultze W, 31 (29), 449
 Schulz E, 60 (55)
 Schulz H J, 293 (288)
 Schwabe M, (6)
 Schwartz B, 72 (71), 277 (276)
 Schwartz K, 18 (15)
 Schweinhart L J, 52 (49)
 Scipio Africanus, (3)
 Seers D, 217
 Seers D G, 687 (681)
 Selowsky M, 39 (32)
 Senelle R, 142
 Sepulveda-Stuardo M, 39 (36)
 Seya P T, 398
 Shah K, (79)
 Shami M A, 412
 Sharma S R, 498 (497)
 Shaw R, 432
 Sheffield J R, xxiii, xxvi, 75 (73)
 Shehab F, 432
 Sheret M, 547 (544)
 Sherman J D, 31 (29)
 Shirk S, 19 (17)
 Shorey L, 135 (133)
 Silva E, 19 (14)
 Silverman T, 520 (519)
- Sim W K, 597 (597)
 Simão J, 568
 Simmon J, 19
 Simmons J, 39, 40
 Simpson J A, 72 (70)
 Simpson R F, 338
 Singh A, 358
 Sjöstrand W, 637
 Skander O, 89
 Skidmore T E, 160
 Skolnik R L, 597 (595, 597)
 Skov P, 234
 Slabbert F van Zyl, 605
 Sluyter P, (4)
 Smilansky M, 385 (385)
 Smith A, (5), (32)
 Smith D H, 9
 Smith H H, 80
 Smith P, 547 (545, 546)
 Smith P H, 160
 Smock A C, 40 (37)
 Snipper A, 52 (49)
 Söderberg P, 637
 Sodnom N, 488 (487)
 Soedarno, 363
 Soedijarto, 363 (362, 363), 364 (362)
 Soelistyon S, 363 (363)
 Soffan L U, 690
 Solana F, 485
 Solliliage M, 438
 Somoza A, (512)
 Son In Soo, 429
 Sophianos C A, 223
 Souali M, 493
 Soumelis C, 309
 Souza A M, 59 (59)
 Srivastava H S, 358
 Steffen H, 726
 Steinberg D I, 167
 Steiner H G, xx, xxii, xxvi
 Stoer S, 568
 Stone J, xxvi, 39 (37)
 Stone R A, 368
 Strabo E G, (3)
 Street S, 19 (16)
 Sucre A de, (712)
 Sudprasert K, 662 (660, 661)
 Suharto, (359)
 Sukarno A, (359)
 Sukarta A, 363
 Sumardi M, 363
 Sumra S A, 657 (654, 655)
 Surakhmad W, 363
 Sutaria M C, 559
 Sutarman S, 363
 Svendsen K E, 657
 Swafford M, 18 (17)
 Swiecki A, 564
 Synge R, 97
 Syrquin M, 38 (37)
- Ta Ngoc Châu, 458
 Tacitus C, (3)
 Tagore R, (351)

- Taiwo C O, 527 (524, 525)
 Taleb Ibrahim A, 89 (84)
 Tamati P F, 722 (720, 721, 722)
 Tan J P, 39 (37), 40 (35)
 Tarnopol L, 234
 Tarnopol M, 234
 Tata I, 681 (680)
 Tate F, (743)
 Taylor E, 75 (74)
 Teichler U, 408
 Teisen M, 657
 Teisserenc P, 192
 Tejeira O A de, 541 (539, 540)
 Telhaug A O, 531
 Temo S, 83
 Templeton R G, 7
 Thai Quang Nam, 719
 Théry B, 72 (70, 71)
 Thias H H, 40 (34, 35)
 Thiersch F W, (6)
 Thobani M, 19 (17), 40 (35)
 Tholomier R, 236 (235, 236)
 Thomas A Jr, 585
 Thomas R M, xxii, xxv, xxvi, 92 (90),
 260, 282, 363 (359, 360, 361, 362), 364
 (362, 363), 429, 467, 597 (595)
 Thompson K W, 257
 Thompson V, 192
 Thompson V M, 236 (235, 236)
 Thongutai U, 662 (661)
 Thorndike R L, 55 (54), 66 (61)
 Thouless R H, 698 (697)
 Tibi C, 676 (671)
 Tipoteh T-N, 449
 Titmus C J, xxv, 60 (58), 72 (70, 71)
 Tito J B, (729)
 Tolbert E L, (443)
 Tolstoy L, xvii, xviii, xxvi
 Tomšić V, 734
 Toriello G, 316
 Torney J V, 66 (61, 65)
 Torrijos Herrera O, (538)
 Toussi M A, 369
 Treich-Laplène, (392)
 Tribhuvan, (496)
 Trivellato U, 391
 Trouwborst A A, 175
 Trow M, 68 (68)
 Trujillo R L, (237)
 T'sou B K, 338
 Tsoukalas K, 309
 Tuaopepe P, 722 (722)
 Tubman, (444)
 Tuene H, 31 (30)
 Tulasiewicz W, 18
 Tun L U, 167
 Tunnermann C, 205 (202), 517
 Tunsiri V, 662 (660)
 Turney C, 65
 Tussing A D, 377
 Twitchell K S, 585 (580)
 Tyack D B, (29)
 Tymowski J, 564
 Uchendu V, 18
 Ulich R, xxvi, (6), 10 (7)
 Unger J, 19 (17)
 Upholf N, 75 (74)
 Urwick J, 19 (16)
 Ushinskii K D, (6)
 Uslar Pietri A, 717 (714)
 Văideanu G, 575 (573)
 Vaizey J E, 13
 Valdez P, 670
 Van de Graaff J, 9, 13
 Van Kemenade J A, 627
 Van Rensburg P, 156
 van Ruysbroek W, (3)
 Vandenbergh R, 142
 Vanderlinden J, 739 (735)
 Vareille J, 282
 Vaudiaux J, 277
 Ventte R E, 662
 Verdier, (392)
 Verhagen B, 739
 Verhine B, 59 (59)
 Vernon-Jackson H O, 179
 Vertecchi B, 391
 Vilfan M, 734
 Visalberghi A, 391
 Vitriaco J de, (3)
 Vitruvius Pollio, (3)
 von Herberstein S, (4)
 von Moltke K, 60 (58), 72 (70)
 Vongvichit P, 435
 Voros F, 309
 Vulliamy G, 547 (547)
 Wafamal A W, 80
 Wafanal A W, 80
 Wagaw T G, 257
 Waggoner B A, 541
 Waggoner G R, 541
 Walberg H J, 60 (58)
 Walker D A, 13 (12), 48 (46), 60 (59)
 Wallerstein I, 19
 Wander H, 326
 Wanna-Ward M, 338
 Warwick D, 19 (15)
 Watson J E, 512 (508)
 Watson K, 662
 Weeks S, 547 (545, 546)
 Weikart D, xxiv, (49)
 Weikart D P, 52 (49)
 Weil T E, 709
 Weiler H N, 19 (17)
 Weis L, 19 (15, 16)
 Weller W, 68
 Wertheim J, 217
 West P, 59 (59)
 Westebbe R, 192
 Wheeler D, 40 (33)
 Whitaker D P, 319 (317)
 White J, 403
 Whitehead C W, 260
 Whittaker D J, 267
 Whyte P M, 338
 Wieser K, 637
 Williams G, 309
 Willis P, 19 (15, 17)
 Wilson D N, 527
 Wilson K, 72 (70)
 Winder D, 579
 Winkler D R, 551
 Wiseman S, (697)
 Wodajo M, 257
 Wong F H K, 597
 Wong Hoy Kee F, 363
 Wong R H K, 597 (597)
 Wood A W, 594 (593)
 Woodhall M, 39 (34, 35, 36),
 40 (33, 35, 36)
 Woodhead M, xxiv, 52 (50, 51)
 Woody T, (6)
 Wormsley D, 547
 Woronoff J, 304 (303)
 Worrell D L, 135
 Worswick G D N, 60 (58)
 Wroczyński R, 564
 Wu T Y, 597
 Xenophon, xvii, (3)
 Yahya Khan, (535)
 Yang Key P, 425
 Yembe O W, 179 (178)
 Yhombi-Opango J, (205)
 Youdi R V, 38
 Young A, (5)
 Yuan Chwang, (3)
 Zabarah M A, 726
 Zachariah M, 19 (14)
 Zammit Mangion J, 476
 Zetterström K, 449 (444, 448)
 Zhao Ziyang, 201
 Zhivkov T, 165 (165)
 Zhivkova L, 165
 Zia ul Haq M, (535)
 Zolotas X, 309
 Zonis M, 369
 Zucker D, 385
 Zuliano A, 391

Subject Index

The Subject Index has been compiled as a guide to the reader who is interested in locating all the references to a particular subject area within the Encyclopedia. Entries may have up to three levels of heading. Where the page numbers appear in bold italic type, this indicates a substantive discussion of the topic. Every effort has been made to index as comprehensively as possible and to standardize the terms used in the index. Given the diverse nature of the field and the varied use of terms throughout the international community, synonyms and foreign language terms have been included with appropriate cross-references. As a further aid to the reader, cross-references have also been given to terms of related interest.

- Adult education 694
 - Angola 94
 - Argentina 104
 - Austria 115, 116
 - Barbados 133
 - Canada 182
 - Chad 189
 - China, People's Republic of 198, 199
 - comparative studies 68-72
 - problems and issues 71
 - purposes 69
 - quantitative vs. qualitative 71
 - regional studies 70
 - single-nation studies 70, 71
 - Cuba 213, 215
 - Czechoslovakia 226
 - Denmark 230, 231
 - Ecuador 241
 - Ethiopia 254
 - Finland 263
 - German Democratic Republic 292
 - Honduras 331
 - Hungary 341
 - Iceland 347
 - India 354
 - Ireland, Republic of 374
 - international dimension 69
 - Kampuchea 413
 - Kenya 416
 - Korea, Democratic People's Republic of 423, 424
 - Kuwait 431
 - Laos 433
 - Liberia 446
 - Luxembourg 453
 - Mauritius 480
 - New Zealand 508
 - Norway 529
 - Oman 533
 - Portugal 566
 - Qatar 569
 - Seychelles 589
 - Spain 612
 - Swaziland 629
 - Sweden 634
 - Switzerland 643
 - Syria 649
 - Tanzania 655
 - taxonomy 69
 - terminology 70, 71
 - Uruguay 708
 - Venezuela 714
 - Yugoslavia 730, 731
 - See also*
 - Continuing education
 - Lifelong education
 - Nonformal education
- Adult literacy
 - educational statistics 26
- Adult vocational education
 - comparative studies 70, 72
- Afghanistan
 - system of education 79-80
- African Adult Education Association (AAEA) 69
- Agence de Coopération Culturelle et Technique* (ACTT)
 - comparative education
 - information services 45
- Agricultural education
 - Lesotho 441
 - Mozambique 494
 - Philippines 555
 - Tunisia 672
- Albania
 - system of education 81-83
- Algeria
 - system of education 84-89
- American Samoa
 - educational television 90
 - system of education 89-92
- Angola
 - system of education 92-97
- Animation rurale*
 - research on 74
- Antigua
 - system of education 97-101
- Apartheid
 - desegregation
 - Zimbabwe 743, 744
 - South Africa 601, 602
- Area studies
 - comparative education 11, 40-41
 - approaches 40
 - case studies 41
 - criticisms of 40
- Argentina
 - system of education 101-06
- Asian and South Pacific Bureau of Adult Education (ASPBAE) 69
- Australia
 - system of education 106-13
- Australian Association for Research in Education (AARE) 113
- Australian Council for Educational Research (ACER) 112, 113
- Austria
 - system of education 114-21
- Bahamas
 - influence of United Kingdom on
 - system of education 122
 - system of education 122-25
- Barbados
 - system of education 131-35
- Basic education
 - Albania 82
 - Colombia 202
 - Congo 206
 - Costa Rica 211

- El Salvador 250, 251
- India 351, 352
- Mali 471
- See also*
 - Elementary education
 - Primary education
- Bechuanaland
 - See* Botswana
- Belgium
 - system of education **135-41**
- Belize
 - system of education **142-45**
- Benin
 - system of education **145-46**
- Bhutan
 - system of education **147-49**
- Bibliographies
 - comparative education 42, 46
- Bilingual education
 - American Samoa 92
 - Peru 553
 - Yugoslavia 730
- Bolivia
 - system of education **149-52**
- Bophuthatswana
 - See* South Africa
- Botswana
 - system of education **153-56**
- Brazil
 - system of education **156-60**
- Brunei
 - system of education **161-63**
- Bulgaria
 - system of education **163-65**
- Burkina Faso
 - system of education **167-70**
- Burma
 - system of education **166-67**
- Burundi
 - system of education **170-75**
- Cambodia
 - See* Kampuchea
- Cameroon
 - IPAR project 176, 177
 - system of education **175-79**
 - anglophone 176
 - francophone 176
- Canada
 - system of education **179-85**
- Carnegie Council on Policy Studies in Higher Education 67
- Caroline Islands
 - See* United States Trust Territory of the Pacific Islands
- Central African Republic
 - system of education **186-88**
- Centre Interafricain pour le Développement de la Formation Professionnelle* (CIADFOR)
 - comparative education
 - information services 44
- Centro de Investigacion y Desarrollo de la Educacion*
 - comparative education
 - information services 47
- Chad
 - system of education **188-91**
- Chile
 - system of education **192-96**
- China, People's Republic of
 - system of education **197-201**
- Ciskei
 - See* South Africa
- Civic education
 - communist education
 - Albania 82
 - comparative studies 61, 65
 - moral education
 - China, People's Republic of 200
- Cognitive processes
 - classroom
 - comparative studies 60
- Colombia
 - system of education **202-04**
- Common Market
 - See* European Community
- Community colleges
 - Canada 181
 - New Zealand 508
- Community education
 - Kiribati 680
 - Tuvalu 679
- Comparative analysis
 - methodology 30
- Comparative area studies
 - postsecondary education **66-68**
 - curriculum 67
 - influence of intellectual disciplines 66
 - publications 66
 - research sources 66, 67
 - strengths of 68
 - student activism 67
- Comparative education
 - aims 10
 - history **3-6**
 - antiquity 3
 - classical world 3
 - eighteenth century 5
 - fifteenth century 4
 - middle ages 3
 - nineteenth century 5
 - seventeenth century 4
 - sixteenth century 4
 - twentieth century 6
 - area studies 11, **40-41**
 - approaches 40, 41
 - case studies 41
 - criticisms of 40
 - bibliographies 42, 46
 - concepts and theories **7-9**
 - data banks 42
 - databases 46, 47
 - documentation **41-48**
 - future prospects 46
 - limitations of 42, 43
 - regional 44
 - sources 47
 - world 41
 - educational planning
 - goals 16
 - functions 9
 - generalization of research results 12
 - history 10
 - influence of intellectual disciplines 7, 8, 9, 11
 - input-output models 15
 - international organizations 10
 - methodological approaches 13
 - alternative **13-18**
 - criticisms 13
 - methodological problems 10
 - methods **10-12**
 - descriptive statistics 10, 11, 12
 - problem approach 11
 - quantitative studies 12
 - nation-state framework 14
 - nonformal education 72-75
 - periodicals 46
 - purposes of study 7
 - quantitative studies 15
 - reports
 - forms of 5
 - research 16
 - motives for 5, 6
 - research problems 66
 - role of philanthropic foundations 16
 - structural functionalism 15
 - women's education 15, 16, 17
 - world systems analysis 14
 - yearbooks 42
- Comparative research
 - educational policy **29-31**
 - categories 29
 - cross-national 29, 30, 31
 - international networks 29
 - limitations 30
 - nature of 29
 - policy studies 29
- Comparative statistics
 - See* Educational statistics, comparative analysis
- Comparative studies
 - adult education **68-72**
 - problems and issues 71
 - purposes 69
 - quantitative vs. qualitative 71
 - regional studies 70
 - single-nation studies 70, 71
 - adult vocational education 70, 72
 - civic education 61, 65
 - definition of term 71
 - economic growth
 - role of education 32
 - and educational development
 - social change 37
 - educational economics **31-37**
 - educational planning
 - cost-benefit analysis 33
 - educational quality
 - and internal efficiency 36
 - foreign language instruction 62, 64, 65

- labor demand
 - analysis of 33
- lifelong education 68-72
- literacy 70, 71
- mathematics instruction 61, 64
- nonformal education 70
- opportunity to learn 61, 62
- paid educational leave 70
- preschool education 49-52
- primary education 52-54
 - international studies 54
- recurrent education 69, 71
- science instruction 61, 62, 64
- secondary education 52-54
 - international studies 54
- sociocultural animation 70
- teaching 60-65
 - deficiencies of 61
- technical and vocational education 55-59
- women's education 70
- Congo
 - system of education 205-10
- Continuing education 684
 - Belize 143
 - Uganda 684
- See also*
 - Adult education
 - Lifelong education
 - Nonformal education
- Convergence theory
 - and comparative education 8
- Correspondence education
 - India 353
 - Kenya 420
 - Malawi 461, 462
- See also*
 - Distance education
- Cost-benefit analysis
 - educational planning
 - comparative studies 33, 34, 35
- Cost-effectiveness analysis
 - teaching methods 36
- Costa Rica
 - system of education 210-12
- Council of Europe
 - comparative education
 - information services 45, 47
 - comparative education research
 - preschool education 51
 - comparative studies 69, 71
- See also*
 - European Documentation and Information System for Education
- Country studies
 - See* Area studies
- Crime
 - Norway 531
- Cross-national comparisons
 - See* Comparative education, area studies
- Cuba
 - system of education 212-17
- Cultural bias
 - in comparative education 8
- See also*
 - Ethnocentric bias
- Curriculum Development Center (CDC), Australia 111
- Cyprus
 - system of education 217-23
- Czechoslovakia
 - system of education 223-28
- Dahomey
 - See* Benin
- Data banks
 - comparative education 42
- See also*
 - Databases
- Databases
 - comparative education 46, 47
- See also*
 - Data banks
- Deafness
 - educational programs
 - Malawi 462
- Denmark
 - system of education 229-34
- Dependency theory
 - and comparative education 9
- Developed nations
 - economic growth
 - role of education 32
 - educational finance 35
 - nonformal education 74
- Developing nations
 - economic growth
 - role of education 32
 - educational finance 35
 - educational quality
 - comparative studies 36
 - manpower planning
 - and educational planning 33
 - nonformal education 74
 - repetition rates 36
- Direct analysis
 - comparative studies 54
- Distance education
 - New Zealand 509
- See also*
 - Correspondence education
- Djibouti
 - system of education 234-36
- Documentation
 - comparative education 41-48
- Dominican Republic
 - system of education 236-39
- Drug abuse
 - Norway 531
- Early educational intervention 49
- East Germany
 - See* German Democratic Republic
- Eastern Samoa
 - See* American Samoa
- Economic development
 - and comparative education 8, 12
 - and equal education 33
- Economic growth
 - and manpower requirements
 - approach 33
 - role of education
 - comparative studies 32
- Ecuador
 - system of education 239-42
- Educational attainment
 - and educational quality 37
 - and income
 - comparative studies 32
- Educational change
 - cross-national influences 7, 11
- Educational development
 - and comparative education 8
 - and social change
 - comparative studies 37
- Educational economics
 - comparative studies 31-37
- Educational finance
 - comparative studies 35
 - equity in 35
- Educational planning
 - cost-benefit analysis
 - comparative studies 33, 34, 35
 - goals
 - comparative education 16
 - and manpower planning
 - comparative studies 33
- Educational policy
 - comparative research 29-31
 - categories 29
 - cross-national 29, 30, 31
 - international networks 29
 - limitations 30
 - nature of 29
 - policy studies 29
 - "one best system" 29
 - prediction of effects 30
- Educational quality
 - developing nations
 - comparative studies 36
 - and educational attainment 37
 - and internal efficiency 36
- Educational reform
 - See* Educational change
- Educational Resources Information Center (ERIC) 46
- Educational statistics
 - comparative analysis 21-28
 - international comparability 21
 - international sources 21
 - international standardization 21, 22, 23
 - national sources 21
 - need for 21
 - reliability of 28
 - sources of data 21
 - uses of 24
- Educational television
 - American Samoa 90
 - Ivory Coast 393, 394
 - Niger
 - system of education 519
 - Portugal
 - system of education 565, 566

- Efficiency
 internal
 and educational quality 36
- Egypt
 system of education 242-48
- El Salvador
 system of education 248-51
- Elementary education
 Austria 116
 Canada 181
 Cuba 215, 216
 German Democratic Republic 288
 Hungary 340
 Iceland 346, 348
 Italy 388
 Japan 404, 408
 Jordan 410
 Korea, Democratic People's Republic of 423
 Liberia 445
 Mozambique 494
 Nicaragua 514, 515
 Peru 552
 Philippines 555, 558, 559
 Saudi Arabia 581
 Turkey 677
 United States 700
 United States Trust Territory of the Pacific Islands 705, 706
See also
 Basic education
 Primary education
- England
See United Kingdom
- Enrollment distribution
 educational statistics 26
- Enrollment projections
 educational statistics 25
- Enrollment ratios
 educational statistics 25, 27
- Equal education
 approaches 37
 and economic development 33
 and income 37
- ERIC
See Educational Resources Information Center
- Ethiopia
 Education Sector Review 252
 system of education 252-57
- Ethnocentric bias
 in comparative education 10
See also
 Cultural bias
- EUDISED
See European Documentation and Information System for Education
- European Bureau of Adult Education (EBAE) 69, 70, 71
- European Centre for Higher Education (CEPES)
 comparative education
 information services 45
- European Centre for Leisure and Education (ECLE)
- adult education
 single-nation studies 70
- European Centre for the Development of Vocational Training (CEDEFOP) 57, 71
- European Community
 comparative education
 information services 44
- European Documentation and Information System for Education (EUDISED) 45, 47
- European Information Network in the European Community
See EURYDICE
- EURYDICE 44
- Expenditures
 educational statistics 27
- Females
 education for
 Afghanistan 80
 Saudi Arabia 580, 582
- Fiji
 system of education 257-59
- Finland
 system of education 260-67
- First-level schools
See Elementary education
 Primary education
- Folk high schools
 Finland 263
 Norway 529
 Sweden 634
- Foreign language instruction
 comparative studies 61, 62, 64, 65
- France
 influence on system of education of
 Congo 206
 Djibouti 235, 236
 French Guiana 277, 278
 Ivory Coast 392, 393, 395
 Mauritania 476
 Morocco 489
 Vanuatu 710
 system of education 267-77
- French Guiana
 system of education 277-80
- French Pacific Islands
 system of education 280-82
- Gabon
 system of education 282-84
- Gambia
 system of education 284-87
- Gazankulu
See South Africa
- German Democratic Republic
 system of education 287-93
- Germany, Federal Republic of
 system of education 294-300
- Ghana
 system of education 300-03
- Great Britain
See United Kingdom
- Greece
 system of education 304-09
- Guadeloupe
 system of education 310-12
- Guatemala
 system of education 312-16
- Guinea
 system of education 316-18
- Guinea-Bissau
 system of education 319-21
- Guyana
 system of education 321-25
- Gymnasium
See Secondary education
- Haiti
 system of education 326-29
- Head Start Program 49
- Hermeneutic case studies
 technical and vocational education 56
- High schools
See Secondary education
- Higher education 654
 Albania 82
 Algeria 86
 Angola 95
 Argentina 103
 Bolivia 150, 151
 Bulgaria 164, 165
 Burkina Faso 168
 Burma 166, 167
 Burundi 173, 174
 Cameroon 176, 177, 178
 Central African Republic 188
 China, People's Republic of 198, 200, 201
 Colombia 202, 204
 comparative area studies 66-68
 Congo 206
 Costa Rica 211
 Cuba 215
 Czechoslovakia 226, 227
 Denmark 231
 Dominican Republic 237, 238, 239
 Ecuador 241, 242
 Egypt 246, 247
 Fiji 258
 Finland 262, 263
 France 271, 272, 274, 276, 277
 Gabon 283, 284
 Ghana 302, 303
 Guadeloupe 310
 Guatemala 313
 Guyana 323, 325
 Haiti 327, 329
 history of 67
 Honduras 329, 330, 331, 332
 Hong Kong 335
 Hungary 341
 Iceland 346, 347, 348
 India 351, 352, 353
 Indonesia 360
 Italy 390
 Ivory Coast 392, 393

- Kampuchea 413
 Kuwait 430
 Lebanon 436, 437
 Libya 450, 451
 Luxembourg 453
 Malawi 459, 461
 Mali 472
 Malta 473, 474, 475
 Martinique 310
 Mexico 483
 Mongolia 486, 487, 488
 Morocco 488, 489
 Mozambique 494
 Nepal 497
 Nicaragua 514
 Niger 518
 Norway 529
 Panama 540
 Papua New Guinea 544
 Paraguay 549
 Peru 553
 Poland 560, 561, 563
 Qatar 569
 Romania 573
 Saudi Arabia 581, 582
 Somalia 598, 599
 Soviet Union 609
 Spain 612
 Sri Lanka 616
 Sudan 621, 622
 Suriname 624
 Swaziland 628
 Sweden 633
 Thailand 658, 660
 Trinidad and Tobago 668
 Tunisia 672
 Turkey 678
 Uganda 684
 United Arab Emirates 689
 United Kingdom 691, 692, 693, 697
 United States 701, 702
 Uruguay 708
 Venezuela 713, 714
 Vietnam 718, 719
 Yemen Arab Republic 724
 Yemen, People's Democratic Republic of 728
 Yugoslavia 730
 Zaire 736, 737
 Zambia 741
 Zimbabwe 743, 745
See also
 Continuing education
 Postsecondary education
 Honduras
 system of education 329-32
 Hong Kong
 system of education 332-38
 Hungary
 system of education 338-45
 Iceland
 system of education 345-49
 Illiteracy
 Egypt 243
 El Salvador 249
 Guinea Bissau 319-320
 India 350
 Iraq 371
 Mauritania 476
 Panama 538, 540
 See also
 Literacy
 Literacy rate
 Income
 and educational attainment
 comparative studies 32, 37
 and equal education 37
 and literacy
 comparative studies 32
 India
 system of education 350-58
 Indonesia
 system of education 358-63
 INED
 See International Network for Educational Information
 Informal education
 Maldives 468
 Rwanda 577
 Input-output analysis
 comparative studies 36
 Input-output models
 comparative education 15, 16
 Institute for Ibero-American Cooperation (IIC)
 comparative education
 information services 45
 Instructional television
 See Educational television
 Intermediate education 126
 Algeria 85
 Italy 387, 388
 Jordan 410
 Kuwait 430
 Lebanon 437
 Mongolia 485, 488
 Sudan 620
 Syria 648
 International Association for the Evaluation of Educational Achievement (IEA) 9, 12, 15, 40, 59
 comparative education 45, 46
 comparative education research
 preschool education 51
 comparative studies 54
 teaching 61
 International Bureau of Education (IBE)
 comparative education
 information services 43, 46
 International Congress of University Adult Education 69
 International Council for Educational Development (IECD)
 research projects
 nonformal education 73
 International Council of Adult Education (ICAE) 69
 International Institute for Educational Planning (IIEP)
 comparative education
 information services 43
 International Labour Organization (ILO)
 comparative education
 information services 43
 International Network for Educational Information (INED) 47
 International organizations
 and nonformal education 73
 International Standard Classification of Education (ISCED) 23
 Iran
 system of education 364-68
 Iraq
 system of education 369-72
 Ireland, Republic of
 system of education 372-77
 Islam 125-28
 Islamic schools
 Indonesia 360, 361
 Israel
 system of education 378-85
 Italy
 system of education 385-91
 Ivory Coast
 system of education 392-97
 Jamaica
 system of education 398-403
 Japan
 system of education 403-08
 Jibouti
 See Djibouti
 Jordan
 system of education 409-11
 Kampuchea
 system of education 412-13
 KaNgwane
 See South Africa
 Kenya
 system of education 413-20
 Kindergartens
 See Preschool education
 Kiribati
 system of education 678-81
 Korea, Democratic People's Republic of
 system of education 420-24
 Korea, Republic of
 system of education 425-29
 Kuwait
 system of education 429-32
 KwaNdebele
 See South Africa
 KwaZulu
 See South Africa

- Labor demand
analysis of
comparative studies 33
- Labor education
Soviet Union 607, 608
- Laos
system of education 432-35
- Lebanon
system of education 435-38
- Lebowa
See South Africa
- Leeward Islands
See French Pacific Islands
- Lesotho
system of education 439-43
- Lesson preparation
comparative studies 62
- Liberia
system of education 443-48
- Libya
system of education 449-51
- Lifelong education 736
comparative studies 68-72
See also
Adult education
Continuing education
Nonformal education
- Literacy
adult
Antigua 99
Afghanistan 79, 80
Cameroon 176
comparative studies 70, 71
and income
comparative studies 32
Uruguay 707, 709
See also
Illiteracy
Literacy rate
- Literacy campaigns
Yemen Arab Republic 724
- Literacy education
Ecuador 241
Ethiopia 254
Ghana 302
- Literacy programs 130, 130
Congo 207
Honduras 331
Iran 366
Iraq 371
Mozambique 494
Nepal 497
Nicaragua 515, 516, 517
Sudan 622
Thailand 659
Yemen, People's Democratic Republic of 727
- Literacy rate
Bahamas 124
Burma 166
Israel 379
Nepal 497
Pakistan 534
Portugal 564, 566, 567
Sierra Leone 593
Zambia 742
- See also
Illiteracy
Literacy
- Luxembourg
system of education 451-54
- Lycées
See Secondary education
- Macao
system of education 454-56
- Macau
See Macao
- Madagascar
system of education 456-58
- Malawi
system of education 458-63
- Malaysia
system of education 463-67
- Maldives
system of education 467-70
- Mali
system of education 470-72
- Malta
system of education 473-75
- Manpower planning
and educational planning
comparative studies 33
- Manpower requirements approach
and economic growth 33
- Mariana Islands
See United States Trust Territory of the Pacific Islands
- Marshall Islands
See United States Trust Territory of the Pacific Islands
- Martinique
system of education 310-12
- Mathematics instruction
comparative studies 61, 64
- Mauritania
system of education 476-78
- Mauritius
system of education 478-81
- Meta-analysis
comparative studies 54
- Mexico
system of education 482-85
- Micronesia
See United States Trust Territory of the Pacific Islands
- Middle schools
See Intermediate education
Secondary education
- Modernization
and comparative education 8
- Mongolia
system of education 485-88
- Morocco
system of education 488-93
- Mozambique
system of education 493-95
- National characteristics
and comparative education 7, 12
- National development
and comparative education 12
- Nepal
system of education 495-98
- Netherlands
system of education 498-506
- New Caledonia
See French Pacific Islands
- New Hebrides
See Vanuatu
- New Zealand
system of education 506-12
- Nicaragua
system of education 512-17
- Niger
system of education 517-19
- Nigeria
system of education 520-26
- Nonformal education 129
Australia 109
Belgium 138
Botswana 154
Burundi 174
Cameroon 178
Chad 189
Chile 194
comparative studies 70, 72-75
general 73
integrated 74
specialized 74
Congo 207
Cyprus 220
Denmark 230
Dominican Republic 238
Egypt 246
France 272
French Guiana 279
future comparative studies 74
Germany, Federal Republic of 297
Guatemala 313
Guyana 323
Haiti 328
Honduras 331
India 353
Indonesia 361
Iran 366
Ireland, Republic of 374
Israel 382
Ivory Coast 394
Jamaica 400
Japan 405
Jordan 410
Kenya 416
Korea, Democratic People's Republic of 424
Lebanon 437
Lesotho 441
Liberia 446
Malaysia 465
Maldives 469
Mali 472
Malta 474
Mauritius 480
Netherlands 501
New Zealand 509
Nicaragua 515

- Niger 519
 Nigeria 523
 Pakistan 536
 Peru 552
 Philippines 555, 556
 publications 75
 research projects 73
 Romania 573
 Saudi Arabia 581
 Singapore 596
 Sri Lanka 617
 Sudan 622
 Suriname 625
 Sweden 634
 Syria 649
 Thailand 659
 Trinidad and Tobago 668
 Uganda 683
 United Arab Emirates 690
 United Kingdom 694
 United States 701
 Venezuela 714
 Vietnam 719
 Yemen Arab Republic 724
 Yemen, People's Democratic Republic of 727
 Yugoslavia 731
 Zaire 736
See also
 Adult education
 Nongovernment schools
 See Private education
 North Korea
 See Korea, Democratic People's Republic of
 Northern Ireland
 See United Kingdom
 Norway
 system of education 527-31
 Nursery schools
 See Preschool education
- Oficina de Educación Iberoamericana*
 (OEI)
 comparative education
 information services 45
- Oman
 system of education 531-34
- Opportunity to learn
 comparative studies 61, 62
- Organisation for Economic Co-operation and Development (OECD)
 adult education 69, 70, 71
 comparative education
 information services 44
- Organization of American States (OAS)
 comparative education
 information services 45
- Pacific Islands
 See United States Trust Territory of the Pacific Islands
- Paid educational leave
 comparative studies 70
- Pakistan
 system of education 534-37
- Palau
 See United States Trust Territory of the Pacific Islands
- Panama
 system of education 538-41
- Papua New Guinea
 system of education 541-47
- Paraguay
 system of education 548-50
- People's Republic of China
 See China, People's Republic of
- Periodicals
 comparative education 46
- Perry Preschool Project 49
- Peru
 system of education 551-54
- Philippines
 system of education 554-59
- Poland
 system of education 559-63
- Policy sciences
 theory 31
- Political education
 China, People's Republic of 200
- Polytechnic colleges
 Germany, Federal Republic of 296
- Polytechnics
 United Kingdom 693, 694
- Portugal
 influence on system of education
 Macao 455
 system of education 564-68
- Postsecondary education 129
 Afghanistan 79, 80
 American Samoa 91
 Angola 94
 Australia 108, 109
 Austria 115
 Bahamas 123
 Barbados 132, 133
 Belgium 137
 Belize 143
 Botswana 153, 154
 Brunei 161, 162, 163
 Chad 190
 Chile 193, 195
 comparative area studies 66-68
 Cyprus 219
 El Salvador 250, 251
 Ethiopia 253, 256
 expansion in
 comparative area studies 67
 French Guiana 279
 Gambia 285
 German Democratic Republic 291
 Germany, Federal Republic of 296, 299
 Greece 305, 308
 Guinea 317
 Iran 365
 Iraq 370
 Ireland, Republic of 374
- Israel 381
 Jamaica 400
 Japan 405
 Jordan 410
 Kenya 415, 417, 420
 Kiribati 680
 Korea, Democratic People's Republic of 423
 Korea, Republic of 426
 Lesotho 440, 441
 Madagascar 457
 Malaysia 465
 Mauritania 477
 Mauritius 480
 Netherlands 501
 Pakistan 535
 Philippines 555, 556, 559
 Portugal 565, 566
 Rwanda 577
 Senegal 586
 Singapore 595
 Switzerland 643
 Syria 648, 649
 Togo 663
 United Kingdom 693
 United States Trust Territory of the Pacific Islands 706
See also
 Higher education
 Universities
- Preprimary education
 See Preschool education
- Preschool education
 Albania 82
 American Samoa 91
 Argentina 103
 Australia 108
 Austria 116
 Barbados 131
 Belgium 137
 Belize 143
 Bolivia 150
 Brazil 158
 Bulgaria 164
 Burkina Faso 168
 Burundi 171
 China, People's Republic of 198
 comparative studies 49-52
 Costa Rica 211
 cross-national studies 49, 51
 Cyprus 219, 220
 Czechoslovakia 226
 Denmark 229, 230, 231
 developing countries 50
 disadvantaged children 49
 Dominican Republic 238
 effectiveness 49
 Ethiopia 253
 Finland 261
 France 269
 German Democratic Republic 288
 Germany, Federal Republic of 295
 Ghana 301
 Greece 305
 Guadeloupe 310

Guatemala 313
 Guinea-Bissau 320
 Guyana 322
 Haiti 326
 Honduras 330
 Hong Kong 333
 Iceland 346
 incentives for 49
 India 352
 industrialized countries 50
 institutional arrangements 49
 international cooperation 51
 Iran 365
 Iraq 370
 Israel 380
 Ivory Coast 392
 Jamaica 399
 Japan 404
 Jordan 409
 Kenya 415
 Korea, Republic of 426
 Laos 433
 Lebanon 437
 Liberia 445
 Libya 450
 Luxembourg 452
 Madagascar 457
 Maldives 468
 Malta 473, 474
 Martinique 310
 Mauritania 477
 Mexico 483
 Mongolia 486
 national studies 50
 Netherlands 500, 504
 New Zealand 508
 Nicaragua 514, 515
 Niger 518
 Nigeria 521
 Norway 528
 Panama 539, 540
 Peru 552
 Philippines 555
 Portugal 565
 Romania 573
 Seychelles 588
 Somalia 599
 Soviet Union 606
 Spain 612
 starting ages 49
 Suriname 624
 Swaziland 628
 Sweden 631
 Switzerland 639
 Syria 648
 Thailand 658
 Togo 663
 Turkey 676
 Uganda 682
 United Arab Emirates 689
 United States 700
 Uruguay 708
 Venezuela 713
 Yugoslavia 730
 Zaire 737
 Zambia 741

Primary education 126, 129, 130
 Afghanistan 80
 Algeria 85, 88
 American Samoa 91
 Angola 94
 Antigua 98, 99, 100
 Argentina 103
 Australia 107, 108
 Barbados 131
 Belgium 137
 Belize 143
 Benin 146
 Bolivia 150
 Botswana 153, 154, 155
 Brazil 158, 159
 Brunei Darussalam 161
 Bulgaria 164
 Burkina Faso 168
 Burma 166, 167
 Burundi 171
 Cameroon 176, 177, 178
 Central African Republic 187
 Chad 189, 190
 Chile 193
 China, People's Republic of 198, 201
 Comparative studies 52-54
 Cyprus 219
 Czechoslovakia 226
 Denmark 229, 230, 231
 Djibouti 235, 236
 Dominican Republic 237, 238
 Ecuador 240
 Egypt 243, 244
 Ethiopia 253
 Fiji 258, 259
 France 269, 276
 French Guiana 278
 French Pacific Islands 281
 Gabon 283
 Gambia 285
 Germany, Federal Republic of 295
 Ghana 301
 Greece 305, 306
 Guadeloupe 310
 Guatemala 313
 Guinea 317
 Guinea-Bissau 320
 Guyana 322, 325
 Haiti 326, 329
 Honduras 329, 330, 331, 332
 Hong Kong 333, 335, 336
 India 351, 352
 Indonesia 359, 360, 361, 362, 363
 Iran 365
 Iraq 370
 Ireland, Republic of 373, 374
 Israel 380, 384
 Ivory Coast 392, 393
 Jamaica 399
 Kampuchea 412, 413
 Kenya 415, 417
 Kiribati 679
 Korea, Republic of 426
 Kuwait 430
 Laos 433

Lebanon 436, 437
 Libya 450
 Luxembourg 452
 Macao 455
 Madagascar 457, 458
 Malawi 459
 Malaysia 464
 Maldives 468
 Malta 473, 474
 Martinique 310
 Mauritania 477
 Mauritius 479, 481
 Mexico 483
 Mongolia 485, 486
 Morocco 488, 489
 Nepal 496
 Netherlands 500
 New Caledonia 281
 New Zealand 508
 Niger 518
 Nigeria 521, 522, 523
 Norway 529
 Oman 531
 Pakistan 535
 Panama 539
 Papua New Guinea 544
 Paraguay 548
 Poland 560
 Portugal 565, 566, 567
 Qatar 569, 570
 Romania 573
 Rwanda 576
 Senegal 586
 Seychelles 589
 Sierra Leone 593, 594
 Singapore 595, 596
 Somalia 598, 599
 South Africa 604
 Soviet Union 607, 609
 Spain 612
 Sri Lanka 618
 Sudan 620, 622
 Suriname 624
 Swaziland 628
 Sweden 631, 632
 Switzerland 641
 Syria 648
 system of education 440
 Tanzania 654
 Thailand 657, 658, 660
 Togo 663
 Tonga 664, 665
 Trinidad and Tobago 667
 Tunisia 671, 674
 Tuvalu 679
 Uganda 682, 687
 United Arab Emirates 689
 United Kingdom 692, 696
 Uruguay 708
 Vanuatu 710
 Venezuela 712, 714
 Vietnam 718, 719
 Western Samoa 721
 Yemen Arab Republic 723, 724
 Yemen, People's Democratic Republic of 727

- Yugoslavia 730
 Zaire 736
 Zambia 740, 741
 Zimbabwe 744, 745
See also
 Basic education
 Elementary education
 Private education
 American Samoa 91
 Barbados 132, 133, 134
 Cyprus 219, 220
 developing nations 35
 Greece 306, 309
 Haiti 326
 Hong Kong 333, 335
 Lebanon 436
 Macao 455, 456
 Mali 471
 New Zealand 510
 Norway 529
 Oman 533
 Philippines 555, 556
 Qatar 569
 Saudi Arabia 580
 Sweden 631
 Trinidad and Tobago 667
 United Kingdom 693
 United States 700, 702
 Uruguay 709
 Venezuela 715
 Public education
 postsecondary
 and educational finance 35

 Qatar
 system of education 568-72
 Qwaqwa
 See South Africa

 Radio
 Malawi 461, 462
 Niger
 system of education 519
 Philippines
 system of education 556
 Rate of return
 to education
 comparative studies 32, 34, 35
 Recurrent education
 comparative studies 69, 71
 See also
 Lifelong education
Red Latinoamericano de Documentación en Educación (REDUC)
 comparative education
 information services 47
 Religious education
 Ireland, Republic of 373
 Libya 450
 Western Samoa 720
 See also
 Islamic schools

 Repetition rates
 developing nations 36
 Research
 costs of 61
 Romania
 system of education 572-75
 Rural education
 Burkina Faso 169
 Sierra Leone 593
 Sudan 622
 Rwanda
 system of education 576-78

 Samoa, Western
 See Western Samoa
 Saudi Arabia
 system of education 579-85
 School mapping
 Colombia 203
 School role
 and comparative education 7
 Science instruction
 comparative studies 61, 62, 64
 Scotland
 See United Kingdom
 Screening hypothesis
 and education 34, 35
 Secondary education 126, 129
 Afghanistan 80
 Albania 82
 Algeria 85, 86, 89
 American Samoa 91
 Angola 94
 Antigua 98, 99, 100
 Argentina 103
 Australia 107, 108, 109
 Austria 115, 116
 Bahamas 123, 124
 Barbados 132
 Belgium 137
 Benin 146
 Bolivia 150, 151
 Botswana 153, 154, 155
 Brazil 158
 Brunei Darussalam 161
 Bulgaria 164
 Burkina Faso 168
 Burma 166, 167
 Burundi 171, 172
 Cameroon 176, 177, 178
 Canada 181
 Central African Republic 187
 Chad 189, 190
 Chile 193
 China, People's Republic of 198, 201
 Colombia 202
 comparative studies 52-54
 Congo 206
 Costa Rica 211
 Cuba 215, 216
 Cyprus 219, 220
 Czechoslovakia 226, 228
 Denmark 230, 231

 Djibouti 235, 236
 Dominican Republic 237, 238
 Ecuador 240
 Egypt 246
 El Salvador 250, 251
 Ethiopia 253
 Fiji 258
 Finland 262
 France 270, 276
 French Guiana 279
 French Pacific Islands 281
 Gabon 283
 Gambia 285
 German Democratic Republic 288
 Germany, Federal Republic of 295
 Ghana 301
 Greece 305, 307, 309
 Guadeloupe 310
 Guatemala 313
 Guinea 317
 Guinea-Bissau 320
 Guyana 322, 325
 Haiti 327, 329
 Honduras 329, 330, 331, 332
 Hong Kong 335, 336
 Hungary 340, 341
 Iceland 346, 348
 India 351, 353
 Indonesia 360, 361, 362
 Iran 365
 Iraq 370
 Ireland, Republic of 373, 374, 376
 Israel 380, 384
 Italy 389
 Ivory Coast 392, 393
 Jamaica 400
 Japan 404, 408
 Jordan 410
 Kampuchea 412, 413
 Kenya 415
 Kiribati 679, 680
 Korea, Democratic People's Republic of 423
 Korea, Republic of 426
 Kuwait 430
 Laos 433
 Lebanon 437
 Lesotho 440
 Liberia 445
 Libya 450
 Luxembourg 452
 Macao 455
 Madagascar 457
 Malawi 459, 460
 Malaysia 464
 Maldives 468
 Mali 471
 Malta 473, 474
 Martinique 310
 Mauritania 477, 478
 Mauritius 481
 Mexico 483
 Morocco 488, 489
 Mozambique 494
 Nepal 496
 Netherlands 500, 504

New Caledonia 281
 New Zealand 508
 Nicaragua 514, 515
 Niger 518
 Nigeria 521, 522, 523
 Norway 529
 Oman 531
 Pakistan 535
 Panama 539
 Papua New Guinea 545
 Paraguay 549
 Peru 553
 Philippines 555, 559
 Poland 560
 Portugal 565, 566, 567
 Qatar 569, 571
 Romania 573
 Rwanda 577
 Saudi Arabia 581
 Senegal 586
 Seychelles 589
 Sierra Leone 593, 594
 Singapore 595, 596
 Somalia 598, 599
 South Africa 604
 Soviet Union 607
 Spain 612
 specialized
 Soviet Union 609
 Sri Lanka 616, 618
 Sudan 620
 Suriname 624
 Swaziland 628
 Sweden 631, 632
 Switzerland 642
 Syria 648, 649
 Tanzania 654
 Thailand 658, 660
 Togo 663
 Tonga 664, 665
 Trinidad and Tobago 667, 668
 Tunisia 672, 674, 675
 Turkey 677
 Tuvalu 679, 680
 Uganda 682, 687
 United Arab Emirates 689
 United Kingdom 692, 693, 696
 United States 700
 United States Trust Territory of the
 Pacific Islands 706
 Uruguay 708
 Venezuela 713, 714
 Vietnam 718, 719
 Western Samoa 721
 Yemen Arab Republic 723, 724
 Yemen, People's Democratic
 Republic of 727
 Yugoslavia 730
 Zaire 736
 Zambia 740, 741
 Zimbabwe 743, 744, 745
 Self-management education
 Yugoslavia 731, 734
 Self-reliance
 education for
 Tanzania 653

Senegal
 system of education 585-87
 Senegambia
 See Gambia
 Senegal
 Seychelles
 system of education 587-91
 Sierra Leone
 system of education 592-94
 Singapore
 system of education 594-97
 Single-nation studies
 See Area studies
 Social change
 and educational development
 comparative studies 37
 Social status
 and educational attainment 36
 Socialist nations
 manpower planning
 and educational planning 33
 Socialization
 and education 7
 Society Islands
 See French Pacific Islands
 Sociocultural animation
 comparative studies 70
 Somalia
 system of education 597-99
 South Africa
 system of education 600-05
 South Korea
 See Korea, Republic of
 Soviet Union
 system of education 605-10
 Spain
 system of education 610-15
 Special education
 Cuba 215
 Finland 262
 France 270
 German Democratic Republic 290
 Hungary 340
 Kenya 419
 Korea, Democratic People's
 Republic of 423
 Korea, Republic of 426
 Malawi 461
 Malta 474
 Netherlands 500, 503
 Norway 529
 Oman 532
 Philippines 556
 Portugal 566
 Soviet Union 608
 Suriname 624
 United Kingdom 693
 United States 700
 Sri Lanka
 system of education 615-19
 Statistics, educational
 See Educational statistics
 Structural functionalism
 comparative education 15
 Student achievement
 comparative research 9

Study circles
 Finland 263
 Sweden 634
 Sudan
 system of education 619-23
 Suriname
 system of education 623-27
 Swaziland
 system of education 627-29
 Sweden
 system of education 630-37
 Switzerland
 system of education 637-46
 Syria
 system of education 647-52

 Tanzania
 system of education 652-57
 Teacher education 128, 330, 331, 677
 Algeria 87, 89
 Angola 94, 96
 Antigua 100
 Argentina 105
 Australia 109
 Austria 116, 119
 Bahamas 124
 Barbados 134
 Botswana 155
 Brazil 159
 Brunei Darussalam 161, 162
 Bulgaria 165
 Burkina Faso 169
 Burundi 172, 174
 Cameroon 176, 178
 Canada 183, 184
 Central African Republic 187
 Chad 190
 China, People's Republic of 200
 Colombia 204
 Costa Rica 211
 Cuba 215
 Cyprus 222
 Czechoslovakia 227
 Denmark 232
 Djibouti 236
 Dominican Republic 238, 239
 Ecuador 241
 El Salvador 251
 Ethiopia 255
 Fiji 259
 Finland 261, 264
 France 275
 French Guiana 279
 French Pacific Islands 282
 Gabon 283
 Gambia 286
 German Democratic Republic 291,
 292
 Germany, Federal Republic of 299
 Ghana 303
 Greece 307
 Guadeloupe 312

- Guatemala 315
- Guinea 318
- Guyana 324
- Hong Kong 336
- Hungary 342, 343
- Iceland 348
- India 355
- Indonesia 362
- Iran 365, 367
- Iraq 371
- Ireland, Republic of 376
- Israel 384
- Italy 389
- Ivory Coast 396
- Jamaica 401
- Japan 406
- Jordan 411
- Kampuchea 412
- Kenya 417, 419
- Korea, Democratic People's Republic of 423
- Korea, Republic of 427, 428
- Kuwait 431
- Laos 434
- Lebanon 437
- Lesotho 442
- Liberia 446, 447
- Libya 450
- Luxembourg 454
- Madagascar 457
- Malawi 459, 462
- Malaysia 466
- Maldives 469
- Mali 472
- Malta 475
- Martinique 312
- Mauritius 481
- Mongolia 487
- Morocco 491
- Mozambique 495
- Nepal 497
- Netherlands 502
- New Caledonia 282
- New Zealand 508, 509
- Nigeria 525
- Norway 530
- Oman 533
- Pakistan 536
- Panama 540
- Paraguay 550
- Peru 554
- Philippines 557
- Poland 561
- Portugal 567
- Qatar 569
- Romania 574
- Rwanda 578
- Saudi Arabia 583
- Seychelles 591
- Sierra Leone 593, 594
- Singapore 596
- Somalia 598
- Soviet Union 610
- Spain 613
- Sri Lanka 618
- Sudan 621
- Suriname 626
- Swaziland 629
- Sweden 635
- Switzerland 642, 644
- Syria 651
- Tanzania 656
- Thailand 660
- Togo 663
- Tonga 665
- Trinidad and Tobago 669
- Tunisia 674
- Turkey 678
- Tuvalu 680
- Uganda 686
- United Arab Emirates 689, 690
- United Kingdom 695
- United States 702
- United States Trust Territory of the Pacific Islands 707
- Venezuela 715
- Western Samoa 722
- Yemen Arab Republic 725
- Yemen, People's Democratic Republic of 728
- Yugoslavia 731
- Zaire 737
- Zambia 740, 741
- Zimbabwe 744
- Teacher effectiveness and educational attainment 36
- Teacher roles teaching 62
- Teacher training *See* Teacher education
- Teaching comparative studies 60-65
 - deficiencies of 61
 - influence of nationality on 60, 61
 - national differences 61
 - effects of 64
 - explanations for 63
 - teacher roles 62
- Teaching materials use of
 - comparative studies 62, 64
- Teaching methods cost-effectiveness analysis 36
- Technical and vocational education comparative studies 55-59
 - developing nations 55
 - hermeneutic case studies 56
 - hypothesis testing across nations 58
 - model testing 59
 - modes of 55
 - parallel case studies 57
 - relationship with general education 55
 - research
 - methodological difficulties 56
 - policy-oriented 56
 - research and development centers 57
 - research issues 55
 - UNESCO 55, 57
 - women's education 55
 - and youth unemployment 58
- Technical education
 - Angola 94
 - Australia 108, 109, 110, 111
 - Austria 115, 116
 - Botswana 154
 - Bulgaria 164
 - Burkina Faso 168
 - Burundi 173
 - Cuba 215, 216
 - Cyprus 219
 - Ethiopia 253
 - Fiji 258, 259
 - France 270
 - Gabon 284
 - Gambia 285
 - Ghana 302, 303
 - Greece 305, 307
 - Guinea 317
 - Haiti 327
 - Iraq 371
 - Italy 389
 - Ivory Coast 392
 - Kenya 415, 420
 - Korea, Democratic People's Republic of 422
 - Laos 433
 - Liberia 445
 - Luxembourg 453
 - Malawi 459, 460
 - Malta 474
 - Mexico 483
 - Mozambique 494
 - New Zealand 508, 509
 - Nicaragua 513
 - Philippines 555
 - Poland 560
 - Seychelles 591
 - Sri Lanka 616
 - Tanzania 654
 - Turkey 677
 - Uganda 683
 - Zambia 740, 741
- Telecourses *See* Educational television
- Tertiary education *See* Postsecondary education
- Textbooks availability of and educational attainment 36
- Thailand system of education 657-62
- Third-level education *See* Postsecondary education
- Tobago *See* Trinidad and Tobago
- Togo system of education 662-64
- Tonga system of education 664-66
- Trade unions responsibility for education
 - Australia 109
 - system of education
 - German Democratic Republic 287, 292

- Traditional education
Pakistan 535
- Traditional schools
Maldives 468
Morocco 488
- Transkei
See South Africa
- Trinidad and Tobago
system of education 666-70
- Tunisia
system of education 670-76
- Turkey
system of education 676-78
- Tuvalu
system of education 678-81
- Uganda
system of education 681-87
- UNESCO
adult education 69, 70, 71
comparative education
information services 42, 43, 46
comparative studies 55, 57
educational statistics 21, 22, 24, 25
regional offices for education
information services 43, 44
UNESCO Institute for Education,
Hamburg
lifelong education 71
Union of Soviet Socialist Republics
See Soviet Union
United Arab Emirates
system of education 688-90
United Kingdom
influence on system of education
Bahamas 122
Jamaica 401, 402
Somalia 598
Vanuatu 710
system of education 691-97
United Nations
comparative education
information services 42
United States
comparative study 53
influence on system of education
American Samoa 89
United States Trust Territory of
the Pacific Islands 705, 706
system of education 698-705
United States Trust Territory of the
Pacific Islands
system of education 705-07
Universal primary education 16, 17
Universities 127, 128, 129
Argentina 103, 104, 105
Australia 108, 109, 110, 111, 112
Austria 116, 121
Benin 146
Burma 166, 167
Canada 183, 184
German Democratic Republic 291
Germany, Federal Republic of 296,
299
Hungary 342
India 352
Indonesia 360
Iraq 371
Ireland, Republic of 373
Italy 390
Japan 405, 408
Korea, Republic of 427
Laos 433
Macao 455
Netherlands 501, 505
New Zealand 508, 509, 511
Nigeria 522
Norway 529
South Africa 604
Sweden 632, 634
Switzerland 643
United Kingdom 693, 694
Yugoslavia 730, 734
See also
Postsecondary education
Upper Volta
See Burkina Faso
Uruguay
system of education 707-09
USSR
See Soviet Union
- Vanuatu
system of education 709-11
- Venda
See South Africa
- Venezuela
system of education 711-17
- Vietnam
system of education 717-19
- Vocational education 127
Afghanistan 80
Albania 82
Angola 94
Austria 115
Belize 143
Botswana 154, 155
Brunei 161, 162
Bulgaria 164
Burundi 173
Congo 206, 207
Cuba 215, 216
Cyprus 219
Denmark 230, 231
Djibouti 235
Ethiopia 253
Fiji 258, 259
Finland 262, 264, 265, 266
France 272
Gambia 285
German Democratic Republic 289,
290
Germany, Federal Republic of 296
Ghana 302, 303
Guadeloupe 311
Guinea 317
Guinea-Bissau 320
Honduras 330
Hong Kong 335
Hungary 341
Indonesia 361
Ireland, Republic of 374
Israel 380, 381
Italy 389
Jamaica 400
Japan 405, 406
Jordan 410
Kuwait 431
Lesotho 440
Liberia 445
Libya 450
Luxembourg 452, 453
Malawi 459, 460
Maldives 468
Martinique 311
Mauritania 477
Mongolia 486, 487
Netherlands 500, 501, 504
Oman 533
Panama 539
Peru 553
Philippines 555
Poland 560
Senegal 587
Seychelles 589
Somalia 598
South Africa 603
Spain 612
Sri Lanka 616
Sudan 620, 622, 623
Suriname 624
Swaziland 629
Sweden 631, 632, 635
Switzerland 642, 643
Syria 650
Tanzania 654
Tunisia 673
Turkey 677
Uganda 683
United Arab Emirates 689
United Kingdom 693
Uruguay 708
Venezuela 714
Yemen Arab Republic 724
See also
Technical and vocational
education
Technical education
- Wales
See United Kingdom
- West Germany
See Germany, Federal Republic of
- Western Samoa
system of education 719-22
German influence on 720
New Zealand influence on 720
- Windward Islands
See French Pacific Islands
- Women's education
comparative education 15, 17

- comparative studies 70
- technical education 55
- Workers' universities
 - Yugoslavia 731
- World Association for Adult Education 69
- World Bank
 - adult education 69, 70
 - comparative education information services 44
- World systems analysis
 - comparative education 14
- Yearbooks
 - comparative education 42
- Yemen Arab Republic
 - system of education 723-26
- Yemen, People's Democratic Republic of
 - system of education 726-29
- Young Men's Christian Association, (YMCA)
 - adult education 69
- Youth unemployment and technical education 58
- Yugoslavia
 - system of education 729-34
- Zaire
 - system of education 735-39
- Zambia
 - system of education 739-42
- Zimbabwe
 - system of education 742-45



Introduction from the Editor

(Continued from front flap)

The articles on comparative education review the history, methods, and issues as well as providing a brief overview of the research undertaken for major areas of comparative education.

Most of the 174 articles in this volume have been drawn from THE INTERNATIONAL ENCYCLOPEDIA OF EDUCATION, with revisions and updates to take account of recent statistics and changes. Approximately half the articles in the comparative section have been specially commissioned for the volume. With so many country systems featured in a single volume for the first time, the Encyclopedia should prove an invaluable source of reference for university and college libraries and general reference libraries, as well as numerous government organizations, bilateral and multilateral agencies, and educational researchers.

T Neville Postlethwait